COMBAT EFFECTIVENESS OF THE COMBINED ARMS BATTALION SCOUT PLATOON

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This study is designed to discover if the combined Arms battalion (CAB) scout platoon is capable of accomplishing its doctrinal mission on the battlefield. The research did in fact show that the CAB scout platoon is effective at accomplishing its doctrinal missions. The methodology used to conduct the analysis is based on the Army capabilities based requirements generation process. The organizational capabilities were analyzed against the critical tasks associated with each of its doctrinal missions to determine success of failure. This study recommends several changes to the CAB scout platoon to increase its capabilities. The recommended changes represent improvements to doctrine, organization, personnel and material in order to make it more effective on the battlefield. The recommendations are intended to increase the capabilities of the CAV scout platoon in order to make it more flexible organization.

While this study validates the current organization, it remains to be seen if commander will employ the unit as directed by doctrine. To ensure capabilities and requirements are aligned; the continued analysis of the effects of modularity on the reconnaissance community is essential.

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The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other governmental agency. (References to this study should include the foregoing statement.)

ABSTRACT

COMBAT EFFECTIVENESS OF THE COMBINED ARMS BATTALION SCOUT PLATOON, by MAJ Neal A. Corson, USA, 85 pages.

This study is designed to discover if the Combined Arms Battalion (CAB) scout platoon is capable of accomplishing its doctrinal mission on the battlefield. The research did in fact show that the CAB scout platoon is effective at accomplishing its doctrinal missions. The methodology used to conduct the analysis is based on the Army capabilities based requirements generation process. The organizational capabilities were analyzed against the critical tasks associated with each of its doctrinal missions to determine success or failure. This study recommends several changes to the CAB scout platoon to increase its capabilities. The recommended changes represent improvements to doctrine, organization, personnel, and material in order to make it more effective on the battlefield. The recommendations are intended to increase the capabilities of the CAB scout platoon in order to make it a more flexible organization.

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ACRONYMS

AO	Area of Operation
AOE	Army of Excellence
APC	Armored Personnel Carrier
ARS	Armored Reconnaissance Squadron
ATGM	Anti Tank Guided Missile
BRT	Brigade Reconnaissance Troop
CAB	Combined Arms Battalion
CALL	Center for Army Lessons Learned
CCIR	Commanders Critical Information Requirement
CFV	Cavalry Fighting Vehicle
CIS	Core Instrumentation System
CLU	Command Launch Unit
COLT	Combat Observation and Lasing Team
DOTMPF	Doctrine Organization Training Material Personnel Facilities
DTIC	Defense Technical Information Center
ERT	Engineer Reconnaissance Team
FAA	Functional Area Analysis
FEBA	Forward Edge of the Battle
FLIR	Forward Looking Infrared
FM	Field Manual
FNA	Functional Needs Analysis
FSN	Functional Solutions Analysis
GSR	Ground Surveillance Radar

HBCT	Heavy Brigade Combat Team
HMMWV	High Mobility Multipurpose Wheeled Vehicle
HUMINT	Human Intelligence
IPB	Intelligence Preparation of the Battlefield
IR	Information Requirement
ISR	Intelligence Surveillance and Reconnaissance
JTAC	Joint Tactical Air Controller
LCD	Limited Conversion Division
LLDR	Lightweight Laser Designator Range finder
LRAS3	Long Range Advanced Scout Surveillance System
MOS	Military Occupational Specialty
NAI	Known Area of Interest
OPFOR	Opposing Force
RHOCP	Reconnaissance Handover Contact Point
ROAD	Reorganization Objective Army Division
ROCAD	Reorganization of the Corps Armored Division
RPG	Rocket Propelled Grenade
RSTA	Reconnaissance Surveillance and Target Acquisition
RV	Reconnaissance Vehicle
SBCT	Striker Brigade Combat Team
TAI	Target Area of Interest
TOC	Tactical Operation Center
TOE	Table of Organization and Equipment
TOW	Tube Launched Optically Tracked Wire Guided Anti-Tank Missile

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CHAPTER 1

INTRODUCTION

The US Army is pursuing the most comprehensive transformation of its forces since the early years of World War II. The primary goal of Army transformation is the development of the future force--a strategically responsive, precision maneuver force, dominant across the range of military operations. In order to ensure the most effective application of power from each component the future Army must be armed with high levels of situational understanding. Situational awareness is the ability to maintain a constant, clear mental picture of the tactical situation. This picture includes an awareness of both the friendly and threat situations and of relevant terrain. It also entails the ability to relate battlefield information and events through space and time to form logical conclusions and make decisions that anticipate events (FM 3.20.98 2002, 1-35). Situational understanding further enables the force to evolve from estimate-based planning conditioned by uncertainty to effects-based planning that exploits knowledge. This means that the reconnaissance unit of the future must be able to empower the commander to fight with information and less reliance on fighting for information. Nowhere is the need for situational understanding greater than at the battalion level. Visually identifying the enemy on friendly forces terms, at a location of friendly forces choosing, is critical to surviving the reconnaissance fight and setting the conditions for the main battle. The US Army places high importance on achieving clear situational understanding as demonstrated by the organizational and doctrinal changes represented in the Heavy Brigade Combat Team (HBCT) (see appendix A).

The HBCT table of organization and equipment (TOE) replaces the brigade reconnaissance troop with an armored reconnaissance squadron. This squadron serves to fill the role of the divisional cavalry squadron that has been eliminated from the force structure. By increasing the capabilities of the organic brigade combat team's reconnaissance assets; the Army is striving to create a brigade force structure that is not reliant on a higher echelon formation to conduct tactical reconnaissance. This increase in assets at the HBCT level is coupled with a reorganization of the TOE for a combined arms battalion scout platoon.

The combined arms battalion scout platoon is the primary means, at battalion level, to collect intelligence and provide early warning on the battlefield. This is especially true in the traditional role of the cavalry which serves as the commander's "eyes and ears" on the forward edge of the battle (FEBA). In order to fulfill the intelligence requirement of the battalion commander of the future force, the battalion scout platoon is transforming from light reconnaissance organizations to a more heavily armored one.

Currently, a reconnaissance platoon of a limited conversion division (LCD) configured infantry/armor battalion consists of six high mobility multipurpose-wheeled vehicles (HMMWV). This affords the platoon a degree of stealth when maneuvering; however, it is not capable of surviving protracted engagement with threat forces. The combined arms battalion scout platoon TOE incorporates five HMMWVs and three M3 cavalry fighting vehicles. This allows the platoon to take advantage of the stealthiness of the HMMWV while affording better direct fire protection with the cavalry fighting vehicles. These changes are intended to ensure that the organization of reconnaissance

units reflects the capabilities required by the commander to accomplish his mission on the battlefield of today and the near future.

The current transformation is an opportunity for the Army to incorporate the capabilities into the scout platoon that will define its success or failure for two decades. Now is the time to examine reconnaissance units to ensure they can fully meet the mission requirements of the near future with today's equipment. The Army must ensure that reconnaissance units are being organized based on near future requirements and not on the capabilities of equipment that will not be available for the foreseeable future. Therefore, this study seeks to answer the question: Is the combined arms battalion scout platoon effective at accomplishing its doctrinal missions?

The research will begin with a study of reconnaissance theory in general terms. This will provide the framework for a common understanding or theory before it is applied specifically to reconnaissance operations. Next, the historical evolution of the scout platoon from World War II until present will be discussed. This research will place the current transformation of reconnaissance units in context with previous changes. It will show the shifting focus of the army from reconnaissance to security missions and back again. This will allow for an understanding of how the current transformation will change the capabilities and mission requirements of reconnaissance units in the near future. Additionally, the identified mission focus will help weight the analysis of mission requirements against platoon capabilities. This is essential in order to not adversely bias the analysis phase. A scout platoon may have a different level of expected effectiveness in execution of a particular mission based on its capabilities. Following the theoretical

and historical studies, doctrinal manuals will be examined to identify the CAB scout platoon mission requirements.

The study of doctrine will identify mission requirements for reconnaissance platoons. Additionally, doctrine will determine what constitutes effective reconnaissance. The elements of effective reconnaissance will determine the success criteria that will be used during the analysis phase.

Next, an examination of training after-action reviews, studies, and the Center for Army Lessons Learned reports from past training will be made to identify the effectiveness of previous scout platoons. This information will set a base line for deficiencies in past reconnaissance organizations. This will assist in the analysis of the current CAB scout platoon's capability to accomplish its mission requirements.

Lastly, an analysis of the after-action reviews, lessons learned from Desert Storm, and lessons learned from Operations Iraqi Freedom to determine if the current armor or mechanized battalion scout platoons were effective in executing their doctrinal missions. This research may suggest whether there is a difference between what doctrine states, a reconnaissance unit is suppose to do, and what commanders believe they are capable of accomplishing. This data will be used to help analyze shortcomings and strengths of the CAB scout platoon organization and capabilities. These real-world experiences will be used to validate the perceived capabilities of the CAB scout platoon. Using the research derived above to conduct an analysis of the scout platoon's mission requirements against its capabilities will both affirm its capabilities and identify limitations in its capabilities. By identifying if limitations exist and determining it they undermine the ability of the CAB scout platoon to execute its mission effectively the research will answer the

fundamental question of the thesis: Is the combined arms battalion scout platoon effective at accomplishing its doctrinal missions?

This study will conclude by recommending solutions to any identified limitations to increase the effectiveness of the scout platoon. The conclusion will discuss the impact these recommendations will have on doctrine, training, and the organization of the scout platoon.

Definitions

The definitions below are found in the FM 3.20.98, *Reconnaissance Platoon* (December 2002), and FM 101-5-1, *Operational Terms and Graphics* (1997).

Area Reconnaissance. A form of reconnaissance operations that is a directed effort to obtain detailed information concerning the terrain or enemy activity within a prescribed area, such as a town, ridgeline, woods, or other feature critical to operations.

Counterreconnaissance. All measures taken to prevent hostile observation of a force, area, or place.

Guard. A form of security operation whose primary task is to protect the main force by fighting to gain time while also observing and reporting information, and to prevent enemy ground observation of and direct fire against the main body by reconnoitering, attacking, defending, and delaying.

Route Reconnaissance. A form of reconnaissance focused along a specific line of communications, such as a road, railway, or waterway, to provide new or updated information on route conditions and activities along the route.

Screen. A task to maintain surveillance; provide early warning to the main body; or impede, destroy, and harass enemy reconnaissance within its capability without becoming decisively engaged.

Zone Reconnaissance. A directed effort to obtain detailed information concerning all routes, obstacles (to include chemical or radiological contamination), terrain, and enemy forces within a zone defined by boundaries.

Assumptions

Assumptions are underlying propositions or statements that must be accepted as true in order to undertake the research (ST20-10 2004, 21). In order to conduct this thesis one must assume that the controlling doctrine for a task force scout platoon will apply to the CAB scout platoon. This is due to the lack of a final doctrinal manual for the new scout platoon organization. Additionally, it must be assumed that the Armored Reconnaissance Squadron (ARS) at the HBCT level will interact with the CAB scout platoon in the same fashion as the Reconnaissance, Surveillance, and Target Acquisition (RSTA) Squadron in the Striker Bridge Combat Team (SBCT). This is essential for identifying the reconnaissance responsibilities of the ARS and the CAB scout platoon.

Limitations

Limitations are weaknesses imposed by constraints or restrictions beyond my control (ST 20-10 2004, 20). The single constraint is the lack of a final doctrinal manual for a combined arms battalion scout platoon. The lack of this document injects an assumption of how the unit will be used on the battlefield to accomplish its mission. This could have a significant impact on the findings if the above assumption is not correct and the new scout platoon is expected to conduct other operations.

Delimitations

Delimitations are constraints imposed on the scope and content so that the research is feasible (ST 20-10 2004, 20). This study will be limited to addressing the execution of an armor battalion scout platoon's reconnaissance mission on the full-spectrum battlefield. It will not address reconnaissance in military operations other than war.

CHAPTER 2

LITERATURE REVIEW

The literature review is divided into five sections. The first section is the examination of the theoretical perspective on reconnaissance by examining the theories of classical military theorists, Sun Tzu, Carl von Clausewitz, and Baron Antoine Henri de Jomini. Section two will map the historical evolution of the scout platoon, from World War I to present, which will provide the framework for a common understanding of reconnaissance, as well as show the shifting focus of the army from reconnaissance to security missions. Section three will examine current field manuals and current white papers pertaining to reconnaissance and the scout platoon in order to define the role of the scout platoon and to identify the mission requirements. In the fourth section of the literature review, emphasis is placed on past training study reports, AARs, and lessons learned at the training centers. The historical information directly affects the analysis of the effectiveness of the CAB scout platoon based on the past performance of similarly equipped units. The final area of the literature review will focus on the AARs, lessons learned, and interviews derived from recent combat operations. This data will help validate training data and conversely show deficiencies in training data to help with the analysis of the CAB scout platoon.

Theoretical Perspective on Reconnaissance

Classical theorists have always recognized the importance of reconnaissance or intelligence gathering about the enemy. This view is prevalent in the writing of Sun Tzu, Clausewitz, and Jomini.

The philosopher Sun Tzu emphasized learning as much as possible about the enemy's plans, movements, dispositions, strengths, and weaknesses. Sun Tzu makes it clear that an appreciation for and the continuous use of intelligence is essential to providing insight into the capabilities and intentions of the enemy. In fact, Sun Tzu uses the gathering and use of intelligence as the critical criteria for evaluating a commander's and a unit's capabilities. "The reason the enlightened prince and the wise general conquer the enemy whenever they move and their achievements surpass those of ordinary men is foreknowledge" (Handel 1992, 113). Although Sun Tzu dwells at length on gaining foreknowledge and gathering intelligence at the strategic level, he does not ignore the value of intelligence at the tactical level. "Probe him and learn where his strength is abundant and where deficient" (Handel 1992, 114). He relied on the use of specialized soldier (spies) to gather the information the commander needed to make rational decisions. Sun Tzu optimistically believed that it was possible to gain the information a commander needed to defeat his enemy. Carl von Clausewitz did not share this optimistic view of intelligence gathering.

In *On War*, Clausewitz does not directly address reconnaissance or security. Instead, he defines intelligence as, "every sort of information about the enemy and his country." (Handel 1992, 121)

Clausewitz downplays the role of intelligence gathering due to the inevitable friction that misinformation and unreliable intelligence brings to the battlefield commander. To overcome the lack of intelligence on a given enemy Clausewitz asserts that the intuition and a superior numerical strength of force are necessary to defeat an enemy (Handel 1992, 125). While the commander may not be able to solve his

intelligence problems, his pursuit of an aggressive strategy can at least increase his chance of victory by hindering the enemy's ability to gather intelligence on friendly forces. Clausewitz recognized that accurate intelligence was vital to winning; however, it was virtually impossible to rely solely on intelligence. Baron Antoine Henri de Jomini finds a more balanced view of intelligence between the optimistic view of Sun Tzu and the pessimistic view of Clausewitz.

Jomini describes the basis for all successful operations centers around the collection of intelligence. "One of the surest ways of forming good combinations in war would be to order movements only after obtaining perfect information of the enemy's proceedings. In fact, how can any commander say what he should do himself, if he is ignorant what his adversary is about?" (Handel 1992, 127), Jomini agrees with Clausewitz in his approach for solving the problem of having unreliable or insufficient intelligence, commander intuition. However, he goes further then Clausewitz by describing methods for gathering reliable intelligence. His five methods for gathering intelligence are still relevant in today's environment: (1) a highly organized and efficient system of espionage (United States nation intelligence assets and the Central Intelligence Agency), (2) reconnaissance by special units (cavalry and scouts units), (3) the interrogation of prisoners of war, (4) forming hypotheses of probabilities (Intelligence Preparation of the Battlefield), and (5) signals (indicators) (Handel 1992, 127). By understanding the limitation of gathering relevant intelligence and identifying a system and the importance of intelligence, Jomini's theories fall squarely between Sun Tzu and Clausewitz.

All three of these classical theorists acknowledged the importance of gathering intelligence. They all advocated the employment of reconnaissance units to gather intelligence. The theories that make up the art of gathering intelligence has to be matched to an organization that is capable of providing the intelligence a commander needs to execute operations and to win on the battlefield. The scout platoon is the organization that is tasked with providing that intelligence.

Historical Evolution of the US Scout Platoon

The scout platoon has undergone many major modifications in personnel, equipment, and doctrine over the past fifty years (see appendix B). In this section the evolution of the scout platoon will be discussed by examining the Defense Technical Information Center (DTIC) report by MAJ Craig Harju, *A Study of the Maneuver Battalion Reconnaissance or Scout Platoon,* dated 18 September 1989. This will show how these units changed in personnel, equipment, and mission focus.

Since World War II to the present the scout platoons have shifted back and forth from tracked to wheeled force and back many times. This constant change is predicated by the changing role of scout units from security to reconnaissance missions. At the end of World War II the battalion scout platoon was a mix of one armored half-track, five Jeeps, and manned by twenty-one soldiers. This organization was expected to collect information through stealthy scouting, avoiding combat except in self-defense or when essential to gain the required information (Harju 1989, 9). During the review of this organizations performance during World War II, several shortcomings were identified. These shortcomings revolved around the unit's lack of survivability and firepower, thereby preventing it from developing the situation and gaining the required intelligence.

As a result of World War II, the Army recognized the need for a more capable scout platoon.

During the Korean conflict the scout platoon grew in size to five Jeeps, two light tanks, one armored personnel carrier (APC), two mortar Jeeps, and thirty-nine personnel. The mission of this platoon, as stated in FM 17-22, *Reconnaissance Platoon and Reconnaissance Company*, (May 1950), was to provide security and perform reconnaissance or light combat for units to which they are assigned or attached. This is a clear shift in the role of the scout platoon, from a stealthy reconnaissance unit to a unit with security and combat roles. By the mid-1950s the Army was faced with the dilemma of how to organize itself in the face of the growing threat from the Soviet Union.

The Army then underwent the Reorganization of the Corps Armored Division (ROCAD) and the Reorganization of the Corps Infantry Division (ROCID). These reorganization efforts created the Pentomic division structure. This reorganization saw very little changes to the basic armor or armored infantry battalion, however, a major change to the battalion scout platoon. The new scout platoon was optimized for dispersion and for the need to gather information over a widely extended frontage and depth of battlefield (Harju 1992, 25). The makeup of this new platoon was fourteen Jeeps manned by forty soldiers. The scout platoon's mission statement, as defined in FM 17-33, *Tank Units, Platoons, Company and Battalions* (August 1957), was to perform security and reconnaissance to the front, flanks, and rear of the battalion. It may be reinforced with tanks and armored infantry to enable it to accomplish any of these mission. This mission is very similar to previous scout platoons that were much better armored. This

shortcoming in survivability was to be address in the next reorganization of the mid-1960s, the Reorganization Objective Army Division (ROAD).

The ROAD changed the lightly skinned scout platoon with a heavily armored scout platoon. This new organization was fielded with five M114s, two light tanks, and one M113, manned by thirty-three soldiers. This change represented the second major change from a purely light reconnaissance based platoon to a security and reconnaissance-based platoon. The changes under the ROAD program saw the scout platoon return to the mission set prescribed during the late 1940s and early 1950s. As the Army continued to evolve throughout the Vietnam era, the scout platoon replaced the light tanks with APCs.

The G-Series TO&Es appeared in the mid-1960s. This organization was made up of ten APCs. The ten-vehicle scout platoon was to stay with the Army for the next twenty years through the H-series, J-series, and the Division 86 TO&Es. All these units were focused on aggressive reconnaissance using reconnaissance by fire and its inherent armored capability to develop the situation and gather need intelligence. The Army then began to reorganize in order to accommodate the fielding of new equipment, the M3 cavalry fighting vehicle (CFV) and the M1A1 tank. This new reorganization was reflected in the Army of Excellence TO&E.

The AOE TO&E gave the scout platoon six M3 CFVs, manned by thirty soldiers. This scout platoon was focused on the same aggressive reconnaissance mission of the past twenty years. Heavily armored scout were to stay in armor and mechanized battalions until the early 1990s. Based on studies done at the training centers and under the Force XXI and Limited Conversion Division TO&Es, the battalion scout platoon was

fielded with ten M1025 HMMWVs. This change represented a change from the past twenty-five years of scout missions. FM 17-98, *Scout Platoon*, (1988), defined the mission of the battalion scout platoon as "focused on information gathering." HMMWV equipped scout platoons were to avoid contact and engage only in self-defense. This same mission requirement is set forth in the current doctrine for scout platoons, FM 3.20.98, *The Reconnaissance Platoon* (2002). This is the same guidance that was represented in the scouting manuals of World War II and the mid-1950s. The battalion scout platoon had come full circle once again.

The scout platoons of the past have changed based on lessons learned and capitalized on emerging technology and equipment improvements. The World War II reconnaissance platoons provided the task force with a very small, totally reconnaissance oriented unit. The post World War II reconnaissance platoon introduced the general-purpose platoon, with scouts, tanks, and infantry. The scout platoon in the Pentomic division tripled the number of trained scouts available to the task force. The ROAD reconnaissance platoon was a throwback to the post World War II model of heavily armored scouts. The G-series, H-series, J-series, and the AOE TO&Es saw scout platoons become mini cavalry organizations. Finally, the LCD and Force XXI TO&Es revived the pure reconnaissance oriented scout platoon. The new CAB TO&E is an attempt to balance the level of stealth and survivability inherent in the battalion scout platoon. Units employing this new TO&E will have to develop tactics, techniques, and procedures on there own unit new doctrine is available for them to use. These units will rely on the doctrinal manuals of their predecessors to help them on the battlefield.

Current Field Manuals and White Papers

The next category of documents to be reviewed will be the current FMs, draft documents, and white papers that pertain to the CAB scout platoon. While none of these documents directly address the CAB scout platoon they all have relevance to defining how this unit will be employed.

There are three current FMs that pertain to the CAB scout platoon, FM 3.20.96, *Cavalry Squadron (RSTA)* (2002); FM 3.20.97, *Reconnaissance Troop*, (2002); and FM 3.20.98, *Reconnaissance Platoon*, (2002).

FM 3.20.96 is important to the new CAB scout platoon because it set the framework for how an Armored Reconnaissance Squadron (ARS) and a CAB scout platoon will interact on the battlefield. The role of a higher reconnaissance echelon, the reconnaissance squadron, and the battalion level scout platoon is address in section VI, reconnaissance handover. During this operation the battalion scouts move to a Reconnaissance Handover Contact Point (RHOCP) to coordinate with the scouts already in contact. As the battalion reconnaissance platoon establishes contact with the threat force, they focus their efforts to answer the battalion commander's CCIR/IR to fill voids in the battalion's IPB and to support targeting. In this scenario the battalion scouts are attempting to identify the enemy without becoming engaged in a direct firefight. The battalion scouts are assuming the surveillance responsibility from the BDE recon squadron, not conducting reconnaissance of unknown objectives or areas. This could lead one to believe that the battalion scout platoon will always follow the ARS through an AO and therefore will not be subjected to conducting reconnaissance forward of the ARS. There are circumstances when the ARS will be given a flank responsibility or economy

of force mission and the battalion scouts will have to lead the BDE attack. However, this manual clearly defines that the normal operation will have the BDE recon squadron in front of the battalion scouts. While the reconnaissance squadron will normally coordinate with the battalion TOC to conduct any kind of handover, the reconnaissance troops within the squadron will do direct coordination with the battalion scout platoons. The doctrine that describes this coordination is within FM 3.20.97, *Reconnaissance Troop*.

Section IV, " Reconnaissance Handover," of FM 3.20.971 covers the interaction of recon troops and battalion scouts. This manual uses the same format and the examples contained within FM 3.20.96. The significant difference between the squadron and troop manual is the focus on maintaining reconnaissance tempo forward. The troop manual describes reconnaissance handover as the means to maintain that tempo. FM 3.20-971 defines reconnaissance handover as "handing a target off to battalion scout by one section while the rest of the troop continues to conduct recon forward" (FM 3.20.971 2002, 3-21). This implies a much closer relationship between the recon troop and the battalion scout platoon. This is understandable because FM 3.20.96 is designed to accommodate the operation of a Brigade Reconnaissance Troop (BRT) within the LCD TO&E. This close relationship is one that will continue to persist between the ARS and the CAB scout platoon in the future. The only signification difference will be in the extra layer of command that is created in the new HBCT. Where a BRT commander had much more latitude to execute coordination and operation within the BDE AO, a troop commander in an ARS must operate within the parameters of the ARS commander's intent. The last manual that has influence on how a CAB scout platoon will operate is FM 3.20.98, *Reconnaissance Platoon*.

FM 3-20.98 states that it “is for leaders of reconnaissance platoons employing M3-series cavalry fighting vehicles (CFV), high-mobility multipurpose wheeled vehicles (HMMWV), or Stryker reconnaissance vehicles (RV). This covers platoons of the armor battalion; the mechanized infantry battalion; the heavy division; the heavy cavalry regiment; the light cavalry regiment; and the reconnaissance, surveillance, and target acquisition (RSTA) squadron. The principles and TTP are also adaptable for scout platoons of the light division reconnaissance squadron. This manual is designed to cover all reconnaissance platoons, and therefore it is acceptable to assume that it will cover CAB scout platoons in the future with very little change.

FM 3-20.98 identifies two types of reconnaissance organizations. One type relies solely on passive surveillance, human interaction (HUMINT), and technical means to perform reconnaissance. The other type uses these techniques and assets, but has the additional capability of fighting for information. The CAB scout platoon falls into the first category. FM 3-20.98 continues to describe these organizations as purely focused on information gathering. Because these organizations conduct reconnaissance dismounted, or from lightly armored vehicles, they are not capable of surviving protracted engagements with threat forces. For this reason, they rely on stealth and the integration of other intelligence, surveillance, and reconnaissance (ISR) assets for survivability and success. They lack the capability to fight for information. This remains true for the CAB scout platoon; however, the addition of M3 CFVs to the TO&E increases the capability of the platoon to break contact successfully from an armored threat. FM 3.20.98 goes on to identify the two primary missions of the reconnaissance platoon as reconnaissance and security operations.

The purpose of reconnaissance operations is “based on their commander’s intent and guidance, scouts conduct reconnaissance forward of other friendly forces to provide current, accurate information about the threat, terrain, weather, society, infrastructure, and physical resources within a specified area of operations” (FM 3.20-98 2002, 3-2). In simplest terms, the reconnaissance platoon and its higher headquarters take steps to link the purpose of the reconnaissance to one or more of the following requirements: (1) obtain information to answer the CCIR, (2) obtain information to fill voids in the unit IPB by answering IR and SIR, and (3) support targeting requirements by conducting target acquisition. This definition lacks any mention of the intended tempo of the reconnaissance, which is stealth verses aggressiveness. This is due to the manual applying to many different types of scouting organizations.

FM 3.20.98 is very specific in what security missions a scout platoon can conduct. It states, “The reconnaissance platoon can conduct screening and area security operations independently or as part of a larger force such as a reconnaissance troop or company team. In conducting guard missions, the platoon works as part of a larger unit such as a battalion or squadron; in addition, the platoon may be tasked to conduct screening or reconnaissance missions in support of the larger unit’s guard or cover mission” (2002, 4-1). This definition significantly limits the expected capabilities of a scout platoon during the execution of security missions.

These two mission sets contain submissions, described in chapter 4, which a reconnaissance platoon is responsible to execute. However, these definitions show the foundation of the missions that a scout platoon of any TO&E is suppose to accomplish

today and in the near future. These current FMs help clarify the concepts being developed in the HBCT white papers and draft FMs.

The Modular Brigade Combat Teams: Task Force Modularity White Paper, 15 July 2004, does not address the CAB scout platoon directly. This document identifies the responsibility of the ARS within the reconnaissance mission of the HBCT.

The ARS must be able to "confirm or deny the current intelligence estimate" (White Paper, Modular Brigade Combats 2004, 137). In order to accomplish this, the squadron performs reconnaissance as its primary role. Although the squadron is armored it is not capable of conducting a reconnaissance in force due to limited armor protection of its vehicles and a lack of firepower. Additionally, the white paper states that the ARS "should be used in a security role only when that cannot be avoided" (White Paper, Modular Brigade Combats 2004, 138).

The survivability and firepower of the ARS demonstrates the emphasis on reconnaissance and a move to limit the security missions of scout units within the HBCT. This is of the utmost importance when evaluating the role and required capabilities of the CAB scout platoon.

Training Study Reports, After-Action Reviews, and Lessons Learned at Training Centers

Next to be examined will be the previous documentation of past research efforts and analysis of training after-action reviews (AAR) that tried to determine how effective the scout platoon was at executing its doctrinal mission in the past. Over the past twenty years, the RAND Corporation conducted two relevant studies, the first in 1987 and the second in 1996.

In 1987, the US Army commissioned Martin Goldsmith of the RAND Corporation to analyze the linkage between reconnaissance and successful offensive operations. Goldsmith analyzed core instrumentation subsystem (CIS) tapes, AAR tapes, and take-home packages to develop his conclusions and recommendations (Goldsmith 1987, 5). The RAND team stated that, “there is a strong correlation between successful reconnaissance and successful offensive operations” (Goldsmith 1987, 67). Their data indicated that training units were attacking with inadequate intelligence about 25 percent of the time and that this is a result of insufficient time. Additionally, they found that the capability of the equipment available to the scouts does not meet their minimum requirements (Goldsmith 1987, 67). Finally, the RAND team recommended that; “A small number, perhaps two, wheeled vehicles should be added to the scout platoon for the purpose of adding stealth and numbers” (Goldsmith 1987, 69). This study was followed up by a second RAND Corporation study in 1996 to see if the change to an all-wheeled scout platoon significantly improved the success rate of reconnaissance.

Results of the second study found that there was “marked improvement in scout platoon operations” (Goldsmith 1996, IX). The RAND team report stated, “Again as before, they (scout platoons) continue to be destroyed by the OPFOR at an average rate of nearly half the vehicles in the platoon each mission” (Goldsmith 1996, 13). However, they noted that scouts were accomplishing there assigned tasks up to 60 percent of the time. This was attributed to an increased availability of scouts due an increase in operations readiness (Goldsmith 1996, 13). However, survivability remained a problem. This second study again recommended a “mix of vehicles” to increase survivability and maintain the stealth of an all-HMMWV scout platoon. With these past studies as a

foundation for past performance of the scout platoon, the pertinent data from actual combat operation will be the next topic examined.

Lessons Learned, Interviews, and After-Action Reviews from Resent Combat Operations

The last two major combat operations in the Middle East, operations Desert Storm and Iraqi Freedom, provide valuable insight into how the current scout platoon performed in combat. The lessons learned, AARs, and first-hand account interviews from Operation Desert Storm and Operation Iraqi Freedom are the key area of analysis.

Desert Storm lessons learned were documented in a Department of the Army document named the *Tait Report* a seven-volume collection of Army lessons learned from Desert Storm. Volume 3, *Operational Lessons*, identifies several shortcomings in the scout platoon organization. The *Tait Report* identified the pure HMMWV scout platoon as inadequate for performing the traditional security missions (Tait 1992, IV-1-1). This report documented that the HMMWV is not suited to operate in the forward battle areas due to its lack of survivability. Mines, unexploded munitions, and entrenchments were hindrances to the vehicles' ability to operate as a reconnaissance platform. The *Tait Report* identified that "several task forces successfully organized scout with M3/HMMWV mix" (Tait 1992, IV-2). This report also recommended a mix of HMMWVs and M3s and improved optical systems be used to improve the capabilities of the scout platoon. This recommendation of mixing the vehicle type and improved optics within the scout platoon supports the findings of the tow RAND Corporation studies of 1987 and 1996. AAR material and lessons learned for Operation Iraqi Freedom are much less developed in their discussion of battalion scout operations.

The 3ID lessons learned document identified that battalion scouts and BRTs were effective at performing their reconnaissance and surveillance mission due to the fielding of the long-range advanced scout surveillance systems (LRAS3). This system allowed the scouts to maintain standoff while conducting observation, detection, and target ranging of enemy combat systems. There was no discussion of the survivability issues within the 3ID Lessons Learned document; however, there were several CALL interviews with 3ID soldiers that expressed concerns over this issue.

In an interview conducted by CALL in May of 2003, Colonel Dave Perkins (Commander of 2/3ID) identified "HMMWV's were not survivable in this threat environment." This statement underscores the lack of survivability contained within the HMMWV as units transition through multiple types of restricted and unrestricted terrain. Colonel Perkins' assessment was supported by an incident in 3-69 Armor. As Private First Class Asencio drove down a route previously cleared by 3-7 Cavalry this HMMWV was taken under attack by dismounts with an RPG from an overpass. This initial chance contact resulted in his HMMWV being destroyed and two of the crewmen seriously injured. A M3/M1 section from 3-7 CAV eventually destroyed the dismounted threat. This engagement shows that HMMWV equipped scouts do not have the armored protection to survive an engagement with dismounted threats. Conversely, heavily armored units can become disabled by dismounted attacks; however, the likely hood of a successful engagement is markedly increased.

This literature review demonstrates that a pure HMMWV scout platoon is unable to accomplish the mission of proving adequate intelligence support because of its lack of survivability and firepower when faced with a chance engagement with the enemy. This

study will focus on analyzing the organization of the CAB scout platoon to determine if it is capable of fulfilling the intelligence-gathering requirement of the CAB as defined in FM 3.20.98, *Reconnaissance Platoon*.

CHAPTER 3

RESEARCH METHODOLOGY

This chapter is divided into three sections: methodology, criteria for effective reconnaissance, and analysis recording method. The first section will address the process to be used for the analysis of the primary research question, is the combined arms battalion scout platoon effective at accomplishing its doctrinal missions? The methodology will be used to analyze the research question in order to formulate limitations. These limitations will be used in chapter 5 as the basis for recommendations to improve the capabilities of the CAB scout platoon. Section two will define the criteria that will be used in the analysis to determine whether or not the scout platoon can effectively execute its missions. These criteria will be derived from fundamentals of reconnaissance and security found in FM 3.20.98, *Reconnaissance Platoon*. The last section will address the method for recording the results of the analysis.

Methodology

The research methodology for this study is derived from the capabilities-based requirements generation process described in section 5-5 of chapter 5 in the Department of the Army publication, *How the Army Runs*. This process is useful and relevant for this study based on its reliance on evaluating unit internal capabilities rather than on minimizing or countering threat capabilities. By focusing on capabilities that a unit will bring to the battlefield, this process reinforces the second core competency of the US Army, to “provide relevant and ready land power capability to the Combatant Commanders as part of the Joint Team” (US Army n.d.).

There are three major phases in the capabilities based requirements generation process (see figure 1). These phases are the Functional Area Analysis (FAA), the Functional Needs Analysis (FNA), and the Functional Solution Analysis (FSA) (*How the Army Runs* 2003, 45).

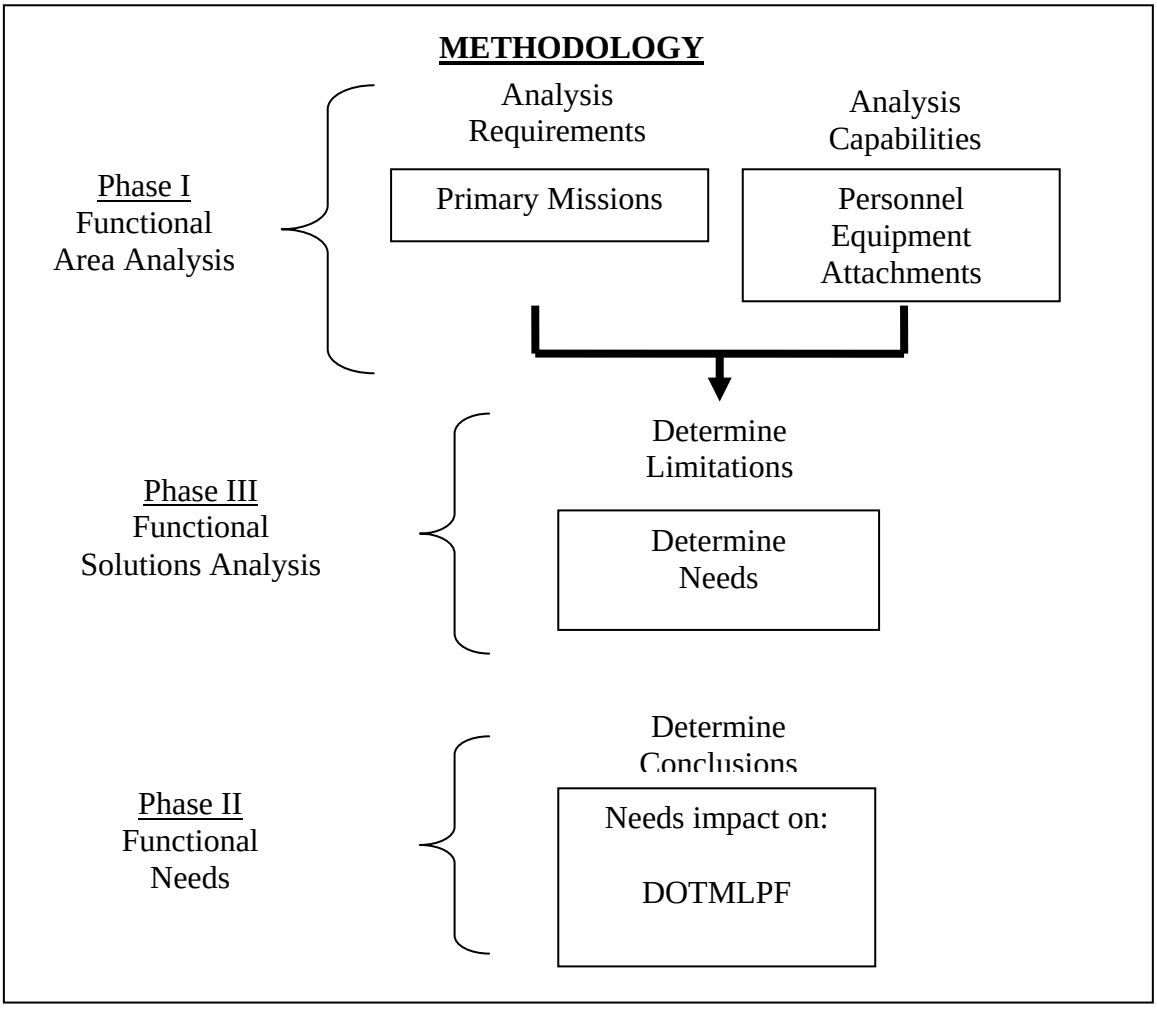


Figure 1. Methodology

The FAA assesses the doctrine, capabilities, and technology of the scout platoon to produce the raw information to be used in the functional needs analysis phase of the

methodology. For this study the FAA phase of the methodology has been divided into two areas, the mission requirements and the capabilities assessment. The mission requirements are determined by identifying the critical tasks for each platoon mission as defined in FM 3.20.98, *Reconnaissance Platoon*. These critical tasks are then evaluated against the results of the next step in the analysis, capabilities. Step two in the analysis is to determine the capabilities of the scout platoon. The TO&E of personnel and equipment determine the capabilities of the CAB scout platoon TO&E.

Phase two is the FNA. The FNA phase uses the FAA phase results to assess the ability of the scout platoon to perform each of the primary operational missions. The analysis takes the identified critical tasks for each platoon mission and analysis them against the success criteria based on the capabilities identified in the FAA phase of the analysis. This will identify any limitations that exist within the CAB scout platoon. The limitations are then transcribed into operational needs in order to ensure mission accomplishment by the scout platoon (How the Army Runs 2003, 45).

The last phase is the FSA. The FSA phase uses identified operational needs from the FNA phase to determine the impact of changes to the scout platoon in terms of doctrine, organization, training, material, leadership, personnel, and facilities (DOTMLPF) (How the Army Runs 2003, 46). These changes and impacts will be discussed in chapter 5, "Conclusions and Recommendations."

Success Criteria for Effective Operations

To determine the criteria for evaluating the CAB scout platoon, it is necessary to use criteria that are suitable for all its primary missions. Each of the three primary missions, reconnaissance, surveillance, and security, has several fundamentals that are

critical to the successful completion of that specific mission. Therefore, it is appropriate to look to these fundamentals to identify common traits among them to use as evaluation criteria.

Reconnaissance has seven fundamentals that are common to all successful reconnaissance operations. These fundamentals are: maximize reconnaissance assets, orient on the reconnaissance objective, report all information rapidly and accurately, retain freedom to maneuver, gain and maintain threat contact, rapidly develop the situation, and ensure continuous reconnaissance (FM 3-20.98 2002, 3-3).

Security operations have five fundamentals, orient on the main body, perform continuous reconnaissance, provide early and accurate warnings, provide reaction time and maneuver space, and maintain threat contact (FM 3-20.98 2002, 4-3).

While conducting surveillance operations scout units must adhere to only three fundamentals, maximize surveillance assets, maintain continuous surveillance of all assigned NAIs, and report all information rapidly and accurately (FM 3-20.96 2002, 3-46).

When evaluating the effectiveness of a CAB scout platoon, not all the fundamentals are relevant. Some fundaments apply during the planning of missions and not the execution. However, there are three fundamentals that are common to all three missions: rapid and accurate reporting, continuous operations, and maintaining contact.

In order to more effectively define the common fundamentals they will be restated as timeliness, accuracy, sustainability, and survivability, for the purpose of using them as evaluation criteria.

Rapid and accurate reporting is broken down into two criteria, timeliness and accuracy. This is done to ensure there is a difference in the analysis between the speed of a reported action and the means to accurately portray the enemy on the battlefield. Sustainability is used to represent the ability to maintain combat readiness over a prolonged operation. Survivability is used rather then maintaining contact in order to better describes the ability of a scout platoon to survive a chance engagement with the enemy as they make and maintain contact. The success criteria are defined as follows:

Timeliness

Timeliness is defined as intelligence that is provided early enough to support planning, influence decisions during execution of operations, and prevent surprise from enemy action (FM 34-2-1 1991, 2-6).

Accuracy

Accuracy is defined as the ability to provide balanced, complete, and objective picture of the enemy and the operational environment. This is derived from multiple sources and disciplines to minimize the possibility of deception of misinterpretation (FM 34-2-1 1991, 2-6).

Sustainability

Sustainment is defined as the ability to maintain operational readiness of personnel, equipment, and other support required to maintain and prolong operations or combat until successful accomplishment or revision of the mission (FM 101-5-1 1997, 1-149). Sustainability is directly related to the execution of continuous operations, in that, without the ability to adequately sustain an acceptable operational readiness rate throughout the duration of a mission, it is impossible to maintain continuous operation.

Survivability

Survivability is defined as the ability to avoid or overcome incidentally contact that may cause casualties or damage to equipment. Because scout platoons are usually the forward-most elements, they must have the capability to survive meeting engagements and to destroy or impede threat forces as necessary to sustain operations at an aggressive tempo.

Analysis Recording Method

To record the results of the analysis of the effectiveness of the CAB scout platoon, a results matrix will be used (see table 1). Table 1 will utilize a rating of capable (C), partially capable (P), and not capable (N), to represent the effectiveness of the CAB scout platoon. A capable (C) rating represents a mission that a CAB scout platoon is capable of effectively accomplishing without any additional attachments. A rating of partially (P) capable will be used for a mission that requires the augmentation of normal attachments, as described in the FAA of chapter 4. Lastly, a rating of not (N) capable will be used to represent missions that, even with normal augmentations, it is not capable of successfully accomplishing.

Table 1. Results Matrix

CRITICAL TASKS	T	A	SUS	SUV	Overall

CHAPTER 4

ANALYSIS

Since the establishment of mechanized forces, the US Army force developers have struggled to develop a scout platoon that can maintain the operational tempo, provide the area coverage, and meet the security requirements of maneuver commanders. The following analysis will determine if the CAB scout platoon is a combat effective unit. Chapter 4 is divided into three sections, the functional area analysis, the functional needs analysis, and the summary of limitations.

The FAA is divided into two parts, the analysis of the CAB scout platoon capabilities and then the platoon mission requirements. The analysis of the capabilities of the CAB scout platoon will focus on the equipment, personnel, and potential attachments that maybe used during a mission. The mission requirements analysis will focus on doctrinal missions found in FM 3.20-98, *Reconnaissance Platoon*. The analysis of these two areas will establish the data needed to conduct the FNA.

The FNA will combine the analysis of the capabilities and mission requirements to determine the limitation of the scout platoon. This will be accomplished by analyzing the ability of the CAB scout platoon to accomplish all the critical tasks of the primary mission. The mission critical tasks will be evaluated against the set of success criteria discussed in chapter 3; timeliness, accuracy, sustainability, and survivability.

The final section is the summary of the limitations identified in the FNA phase and the record of the results of the analysis in the results matrix.

Functional Area Analysis

Capabilities of the Scout Platoon

Identification of the capabilities of the CAB scout platoon is broken into three categories, equipment, personnel and attachments. The equipment category is broken down into three subsets, vehicles, crew served weapons, and optics and communications. The second category is personnel; it will address the military occupational specialties (MOS) that are apart of the TO&E of the scout platoon. The last category will address the attachments that can be given to a scout platoon in order to assist it in the execution of its mission.

Vehicle Capabilities

The identification of the CAB scout platoon equipment capabilities is divided into three areas, vehicles, weapons, and optics. The first type of equipment discussed will be vehicular. It will focus on the lethality and survivability of the vehicle types.

The CAB scout platoon employs two primary types of vehicles the M1114 HMMWV and the M3A3 CFV.

M1114 (HMMWV)

The HMMWV is a four-wheel drive off road truck equipped with a high performance diesel engine, and an automatic transmission. All HMMWVs are designed for use over all types of roads, in all weather conditions, and are extremely effective in the most difficult terrain. The HMMWV is produced in eleven variants to support weapons systems; command and control systems; field ambulances; and ammunition, troop and general cargo transport.

As a result of US peacekeeping efforts throughout the world, the Army identified a need for an armored vehicle that provided a high level of ballistic protection against sniper fire and mine blasts. The ballistic protection was to provide protection from 7.62mm assault rifle armor piercing rounds, 155mm artillery airburst rounds, and 12 lbs front and 4 lbs rear anti-tank mine protection. The M1114 Up-Armored HMMWV filled the need for such a vehicle.

The M1114 is an Up-Armored HMMWV that provides ballistic, artillery, and mine blast protection to the vehicle occupants. The principal modifications to the M1114 over the standard HMMWV includes an armor package, high capacity brakes, upgraded suspension and lift points, a reinforced frame, and a large capacity air conditioning unit. The weapon mount, located on the roof of the vehicle, is adaptable to mount the M240B, a 7.62mm machine gun, a M2 .50 caliber machine gun, a MK 19 grenade launcher, or a Long range advanced scout surveillance system (LRAS3). The weapons platform can be traversed 360 degrees. This configuration of the HMMWV is equipped with the self-recovery winch. Each vehicle requires a driver, vehicle commander, and a gunner. Two additional scouts are carried in the passenger seat for a total of up to five crewmen. When conducting dismounted operations a minimum of two soldiers must remain with the vehicle in order to move it and man the crew served weapon system.

The M1114 is designed to conduct reconnaissance and security operations as its primary function. The speed, mobility, and stealth of the Up-Armored HMMWV also allows the scout to extend the depth of his reconnaissance, providing increased security and additional time and maneuver space for the commander. Due to its small signature relative to the cavalry fighting vehicle, the Up-Armored HMMWV provides the stealth

necessary to conduct detailed reconnaissance in areas where contact with the enemy is possible.

M3A3 Cavalry Fighting Vehicle

The CFV is a fully armored, fully tracked vehicle designed to carry scouts into close contact with the enemy. The wide tracks and 600 horsepower turbo-diesel engine give the vehicle the mobility it needs to keep up with other tracked vehicles, and keep the soldiers it carries out of harms way. It possesses the medium and long-range firepower capabilities of defeating any vehicle on the battlefield, and is adequately armored to protect the crew from artillery and small arms threats.

The M3A3 CFV is an improved version of the M3A2 CFV. The M3A3 includes improvements to increase lethality, mobility, survivability, and sustainability. Additionally, these enhancements are intended to provide increased situational awareness and digital command and control capabilities necessary to provide information superiority to the CAB scout platoon. The M3A2 provided protection against 30mm projectiles on all sides, and added spall liners. The M3A3 added titanium roof armor. The CFV, while having better armor protection than the M1114, lacks adequate armor protection to withstand medium to heavy anti-tank guided missile (ATGM) fire. The CFV is vulnerable to man-portable anti-tank and anti-vehicular weapons such as the rocket propelled grenade (RPG-7), with armor piercing warheads, which are capable of penetrating up to 12 inches of steel.

Other M3A3 enhancements include a vehicle control and operation system to control and automate many crew functions and to enhance situational awareness by transmitting, receiving, storing, and displaying digital messages. This digital capability is

compatible with all Force XXI Battlefield Command and Control Brigade and Below (FBCB2) battlefield-tracking systems. The improved Bradley acquisition system (IBAS) and commander's independent viewer, both have second generation forward looking infrared (FLIR) sites and improve target acquisition, and target engagement.

The M3A3s main armament is the M242 25 millimeter "Bushmaster" Chain Gun. Either armor piercing (AP) or high explosive (HE) ammunition can be used to engage armored or dismounted threats. The standard rate of fire is 200 rounds per minute, and has a range of 3,000 meters (depending on the ammunition used). A wide range of ammunition has been developed for this weapon, making it capable of defeating the majority of armored vehicles it is likely to encounter, up to and including some main battle tanks. The M240C machine gun, mounted to right of the Bushmaster, fires 7.62 millimeter rounds. This weapon is used to engage light skinned vehicles, such as trucks, and enemy dismounted soldiers. When facing heavier enemy armor the Bradley relies on the tube launched optically tracked wire guided (TOW) antitank missile. Two of these missiles are carried ready to fire in a collapsible, armored launch rack on the left of the turret. The Bradley must stop in order to fire these missiles, which are then reloaded by the dismounts in the back of the vehicle, using a special hatch, which provides armor protection during the reloading operation. The missile is equipped with a massive shaped charge, high explosive warhead and is propelled by a two-stage solid propellant motor. The range of the TOW missile is nearly 4 kilometers. This weapon is capable of destroying any armored vehicle in existence today and is deadly accurate.

Crew Served Weapons Capabilities

M240B

The M240B 7.62mm machine gun is a left hand feed, gas operated, air-cooled, fixed headspace weapon. The M240B machine gun is the ground version of the original M240 coaxial machine gun for tanks and BFSVs. The M240B is modified for ground use by the installation of an infantry modification kit, comprised of a flash suppressor, front sight, carrying handle for the barrel, a buttstock, infantry length pistol grip, bipod, and rear sight assembly. The maximum effective range for a M240B is 1.8 kilometers, on tripod mount. The M204B has a cyclic rate of fire of 650-950 rounds per minute. This weapon allows dismounted scouts the necessary firepower to break contact with other dismounted elements.

Javelin

The Javelin anti-tank missile system consists of two parts, the command launch unit (CLU) and the round. The CLU incorporates a passive target acquisition and fire control unit with an integrated day sight and a thermal imaging sight. The day sight is equipped with x 4 magnification and the night sight with x 4 and x 9 magnification optics. The CLU represents a powerful dismounted night sight capability for scouts.

The round consists of the Javelin missile and the launch tube assembly (LTB). The range of the missile is 2,500 meters. The Javelin is a fire-and-forget missile with lock-on before launch and automatic self-guidance. The warhead is fitted with two shape charges: a precursor warhead to initiate explosive reactive armor and a main warhead to penetrate base armor. The propulsion system is a two-stage solid propellant design, which provides a minimum smoke soft launch.

A soft launch ejects the missile from the launch tube to give a low-recoil shoulder launch. The soft launch enables firing from inside buildings or covered positions. Once the missile is clear, the larger propellant in the second stage is ignited and the missile is propelled towards the target. The weapon has two attack modes, direct or top attack. The gunner selects direct attack mode to engage covered targets, bunkers, buildings and helicopters. The top attack mode is selected against tanks, in which case the Javelin climbs above and strikes down on the target to penetrate the roof of the tank where there is the least armor protection.

The system is deployed and ready to fire in less than thirty seconds and the reload time is less than twenty seconds. Unlike conventional wire guided, fiber-optic cable guided, or laser beam riding missiles, Javelin is autonomously guided to the target after launch, leaving the gunner free to reposition or reload immediately after launch.

Optics and Communications

The CAB scout platoon has three primary optical sights, the PVS-7D, the long range advanced scout surveillance system (LRAS3), and the lighweight laser disignator range finder (LLDR).

AN/PVS-7D Night Observation Device

The AN/PVS-7D night observation device (NOD) is a passive night vision device that uses either ambient light (from the stars, moon, or other low-intensity illumination) or operates by detecting the differences in heat (infrared energy) radiated by different objects. This system is effective of identification of targets up to approximately 500 meters, weather conditions permitting. Heavy rain, snow, fog, or smoke degrades the

effectiveness of these devices. The next optical system is the vehicle mounted or dismounted night sight LRAS3.

Long Range Advanced Scout Surveillance System

The LRAS3 is a long range multi sensor system that provides real-time detection, recognition, and identification of distant target locations. LRAS3 will be deployed on the three M1114s in its mounted configuration and can be used on a tripod for dismounted missions. This system provides precise target location by incorporation of second generation FLIR, integration of global positioning device, an eye-safe laser range finder and a television (TV) camera. This system can effectively identify enemy targets in excess of 2000 meters and is not adversely affected by weather. The major disadvantage of this system is that when vehicle mounted it eliminates the ability to mount a crew served weapon on the M1114. This has significant implications on the survivability of the vehicle. To complement this system the scout platoon will employ for the first time an organic laser designator system.

Lighweight Laser Disignator Range finder

The AN/PED-1 LLDR provides target acquisition in daylight, at night and in obscurant conditions. It is equipped with an eye safe laser range finder, integrated GPS system, laser designator, and can be integrated into a unit digital architecture. The LLDR is adversely effected by sever weather. This system provides redundant battlefield observation to the LRAS3; and links the scout to its primary weapons system, field artillery. Additionally, it provides the laser designator capability to the scout and ensures that precision munitions can be effectively employed.

Personnel Capabilities

According to the TO&E of a CAB from 4ID (see appendix B), the CAB scout platoon maintains the same personnel TO&E as the previous scout platoon. The CAB scout platoon has twenty-nine 19D (scout) soldiers and one 19A (armor) officer. This is in contrast to the HBCT armed reconnaissance squadron (ARS) scout platoon, which has a mix of twenty-four 19Ds, five 97Bs (counter intelligence agent), and one 19A officer. The addition of the 97D MOSs to the ARS scout platoon is intended to increase the human intelligence capability of the unit. This is a mission that the CAB scout platoon will not be able to conduct as successfully due to the lack of 97B soldiers. Based on the number of soldiers within the platoon certain capabilities are inherent to the unit. These capabilities are interlinked to the number and type of vehicles within the platoon.

In order to ensure that vehicles can move and defend themselves at all times, a minimum of two soldiers must remain mounted per vehicle. As previously discussed, the CAB scout platoon has three M3A3s and five M1114s organic to its TO&E. This requires the platoon to maintain a total of sixteen personnel mounted at all times. The remaining fourteen soldiers are available for dismounted operations. While this may appear to be a significant number of dismounts, you must evaluate this by scout section due to the manner in which a scout platoon employs itself.

A scout section, generally, operates as an independent organization outside of mutual support of dismounts from other sections. A scout section, made up of one M3A3 one M1114 and eight soldiers, must maintaining a two-man crew per vehicle, leaving four soldiers out of eight available for dismounted operations. With only four soldiers dismounted a scout section can man one short duration observation post.

A short duration observation post is defined as a position manned for no more than twenty-four hours. A short duration observation post has two elements to it, a lookout position and a security position, both manned by at least two soldiers. The lookout position is responsible to observe the assigned target and report all activity to higher. The security position is located to the rear of the lookout position and is responsible for ensuring the dismounted position is not surprised by enemy dismounts. Because there is no way to rotate soldier to a position were they could adequately rest during the operation, a twenty-four hour limit is mandated. In order to extend the time a section could observe a particular target it must create a rest position. This is a secure position between the lookout and security positions were soldiers rest. To do this, the platoon must task organize its three sections.

A scout platoon must break up one of the three scout sections to create two larger sections. This creates two sections with six dismounts available to man an observation post. Once this is done the platoon can man up to two long duration observation posts. When manning either a short or long duration observation posts the CAB scout platoon has significant difficulties in generating dismounted patrols.

The minimum number of soldiers required to perform a dismounted patrol is four. Four soldiers are required to perform the four essential tasks during a patrol, team leader, point man, compass man, and pace man. A four-man patrol is capable of conducting security patrols between observation posts as long as the distance between posts is not so great as to prevent mutual support between the patrol and an observation post, or a mounted section. The four-man patrol does not have the ability to maneuver on or break

contact with enemy elements without the assistance of another section or a mounted element.

This means that a platoon can occupy three short duration observation posts and not patrol, or set up two observation posts and conduct one patrol between them. Additionally, if the platoon must conduct long duration observation posts, it can either occupy two long durations post and not patrol, or occupy one long duration observation post and conduct one patrol around it. The next section will discuss the capabilities of attachments to the CAB scout platoon.

Attachment Capabilities

The attachment category will address the capabilities of the five most common attachments to a scout platoon, the ground surveillance radar (GSR) team, the combat observations and lasing team (COLT), the engineer recon team (ERT), and the joint tactical air controller (JTAC).

Ground Surveillance Radar

A GSR team consists of two soldiers equipped with an unarmored HMMWV and two PPS-5 GSR systems. The GSR provides the scout platoon with timely combat information and target acquisition data. The primary capability of GSR is to search, detect, and locate moving objects during limited visibility. It provides early warning of enemy movement and assists friendly forces in movement control.

GSR is used to:

1. Detect enemy movement during limited visibility
2. Monitor a known area of interest (NAI)
3. Monitor barriers and obstacles to detect enemy breaching

4. Monitor flanks

5. Extend the capabilities of patrols and Ops and LPs

6. Vector patrols

7. During daylight, detect enemy obscured by haze, smoke, or fog

8. Monitor possible drop zones or landing zones

GSRs have the capabilities to:

1. Penetrate smoke, haze, fog, light rain and snow, and light foliage

2. Operate in complete darkness

3. Detect moving personnel up to 6 km and equipment up to 10 kilometers

4. Be moved around on the battlefield

5. Provide adjustment of indirect fire

GSR limitations are:

1. Emits active radar waves, which are subject to enemy detection and electronic countermeasures (ECM)

2. Performance is degraded by heavy rain or snow and dense foliage

3. Line of sight (LOS) operation only

4. Limited mobility of the AN/PPS-5

GSR teams are most effective in a surveillance or security role, when a scout platoon is going to be stationary for prolonged period of time. However, the GSR can be used during reconnaissance operations during a short halt. When employing the GSR radar, scouts must consider the electronic security risk. Both the main and side lobes emit sufficient energy for the enemy to detect friendly locations. In order to limit detection the radar should be placed so that the target is between the radar and the hills or forests to

limit the detection range. Additionally, GSRs should be used in tandem with two or more widely dispersed radars having the capability to illuminate the same target area, alternating operation times (FM 34-2-1 1991, 3-6).

Combat Observations and Lasing Team

The COLT is designed to maximize the use of smart munitions. Although originally conceived to interface with the Copperhead, laser guided artillery round, a COLT can be used with any munitions that require reflected laser energy for final ballistic guidance. Therefore, the team can also laze for smart munitions delivered by Air Force and Army aircraft. Within the heavy force structure, the team is composed of three soldiers equipped with a ground/vehicular laser locator designator (G/VLLD) and the necessary mobility and communications assets.

Each team is composed of one sergeant, who is the team chief and primary operator of the G/VLLD; one fire support specialist; and one HMMWV driver.

Major responsibilities for fire support include: execute brigade essential fire support tasks (EFSTs), initiate fires on targets within target areas of interest (TAIs), engagement areas (EAs), or trigger points, and observation of NAIs (FM 6-20-40, p I-1).

The COLT team enables the CAB scout platoon to man an additional short duration observation post, thereby increasing the depth of a screen. Additionally, this team provides direct access to the fire support network ensuring responsive fire support.

Engineer Recon Team

An ERT is the base engineer recon element. The team normally will conduct reconnaissance of enemy obstacles; however, it may be given additional NAIs. In most instances, the recon team will consists of a five man team, two to remain mounted and

three to execute dismounted reconnaissance. This asset adds additional reconnaissance capabilities to the scout platoon and enable the scout platoon to do limited obstacle reduction (FM 5-170 1997, 4-2).

An engineer recon team increases the capabilities of the CAB scout platoon to conduct reconnaissance of complex mine and wire obstacle systems, enemy engineer activities, and details of mobility along a route. It provides detailed technical information on any encountered obstacle and conducts an analysis of what assets will be needed to reduce any encountered obstacle. The ERT will mark bypasses of obstacles based on guidance from the CAB scout platoon and assists in guiding the breach force to the obstacle to be reduced (FM 5-170 1998, 1-2).

Joint Terminal Air Controller

The JTAC is a member of the tactical air party that assisted the ground commander in planning and controlling CAS missions. This team can be made up of any personnel trained and qualified as a JTAC. The Air Force normally provides the scout platoon with an enlisted terminal attack controller (ETAC). The JTAC provides the scout platoon with the ability to disrupt enemy forces during reconnaissance or security missions. CAS is one of the preferred mean to engage and destroy the enemy for a scout (JP 3-09.3 2003,II-11).

The JTAC must:

1. Know the enemy situation, selected targets, and location of friendly units.
2. Know the supported unit's plans, position, and needs.
3. Validate targets of opportunity.
4. Advise the commander on proper employment of air assets.
5. Submit immediate requests for CAS.

6. Control CAS with supported commander's approval.

7. Perform battlefield damage assessments (JP 3-09.3 2003,II-11).

Now that the analysis of the capabilities of a CAB scout platoon is complete, it is now time to analysis the mission requirements.

Mission Requirement

FM 3-20.98, Reconnaissance Platoon, will be used to determine the mission requirements for the CAB scout platoon. Although this manual doesn't necessarily address the TO&E of the CAB scout platoon, it is well suited for this analysis due to the vastly different types of scout platoons for which it is written. This broad base facilitates the assumption, made in chapter 1, that the CAB scout platoon will be required to perform the same missions as the current array of scout platoons. FM 3-20.98 defines the primary mission of a reconnaissance platoon as:

The reconnaissance platoon's primary missions are reconnaissance, surveillance, and security in support of its parent unit. As part of Reconnaissance and surveillance tasks, the platoon will conduct target acquisition, which will require it to detect, identify, and locate key targets for lethal and nonlethal fire. The platoon is also trained and equipped to conduct tactical battlefield damage assessments (BDA) (FM 3-20.98 2002, 1-20).

In addition to the primary missions, the reconnaissance platoon can perform many tactical and support secondary missions. The primary and secondary missions are listed in table 2.

For the purposes of this study, the analysis will only address whether or not a scout platoon is capable of effectively accomplishing its primary missions of

reconnaissance and security. This is based on the lack of doctrine describing the mission of surveillance and the understanding that surveillance is a component of security missions. The analysis of the doctrinal missions of the CAB scout platoon is designed to clearly identify the critical tasks associated with each mission. These critical tasks will be evaluated during the functional needs analysis against the capabilities of the scout platoon to determine limitations. The first mission analyzed will be the reconnaissance mission.

Table 2. Reconnaissance Platoon Missions

Reconnaissance	Surveillance	Security	Other
-Route -Zone -Area		-Screen -Area security	-Liaison -Quartering party -Traffic control -Chemical Recon -Limited obstacle construction and reduction

Reconnaissance

FM 3.20-98 describes the role of a scout platoon, during reconnaissance operations as:

> providing their commander with information that has tactical value concerning the terrain, threat, social/human demographics, infrastructure, and effects of weather within an area of operations. Scouts reconnoiter terrain to determine movement and maneuver conditions. When they find the threat, they determine his disposition, strengths, and weaknesses in detail (2002, 3-1).

The purpose of reconnaissance operations is to provide information necessary to allow combined arms forces to maneuver against the threat, strike him where he is most vulnerable, and apply overwhelming power to defeat him.

To accomplish this mission the scout platoon executes three primary reconnaissance missions, route reconnaissance, zone reconnaissance, and area reconnaissance.

Route Reconnaissance

Route reconnaissance is conducted to gain detailed information about a specific route or axis as well as the terrain on both sides of the route that the enemy could use to influence movement on the route. Because of the large number of critical tasks associated with route reconnaissance, the platoon normally can conduct detailed reconnaissance of only one route. There are twelve critical tasks associated with a route reconnaissance in FM 3.20-98:

1. The Determine the trafficability of the route.
2. Reconnoiter all built-up areas along the route.
3. Reconnoiter, to the limit of direct fire range, terrain that dominates the route.
4. Reconnoiter, to the limit of direct fire range, all lateral routes.
5. Inspect and classify all bridges on the route.
6. Locate fords or crossing sites near all bridges on the route.
7. Inspect and classify all overpasses, underpasses, and culverts.
8. Reconnoiter all defiles along the route.
9. Locate minefields, and other obstacles, along the route.
10. Locate a bypass around built-up areas, obstacles, restrictions, and contaminated areas.
11. Report route information.

12. Find and report all threat forces that can influence movement along the route (2002, 3-57).

Zone Reconnaissance

The commander normally assigns a zone reconnaissance to the scout platoon when he needs detailed information before maneuvering his forces through the zone. This reconnaissance provides the commander with a detailed picture of how the threat plans to defend the zone, enabling him to choose the appropriate COA. This statement implies that the commander intents to give the scout platoon the appropriate time required in order to accomplish its mission. Additionally, doctrine specifies that a zone reconnaissance is the primary mission of regimental and division cavalry reconnaissance units. This implies that a CAB scout platoon will only be expected to conduct a zone reconnaissance when the enemy threat is within their capabilities, or when they are augmented with additional forces. There are four main types of zone reconnaissance, the terrain-oriented, force-oriented (threat), society-oriented, and infrastructure-oriented reconnaissance.

The platoon conducts terrain-oriented zone reconnaissance to gain detailed information about routes, terrain, and resources within the assigned zone. This is the most thorough and complete reconnaissance mission and therefore is very time intensive. It is common for scouts executing a zone reconnaissance in terrain with heavy vegetation to advance at only about one kilometer per hour.

The platoon conducts force-oriented zone reconnaissance to gain detailed information about threat forces within the zone. As the platoon conducts this type of zone

reconnaissance, its emphasis is on determining the threat's locations, strengths, and weaknesses.

FM 3.20-98 states that a scout platoon must be augmented with the appropriate assets to conduct a zone reconnaissance oriented on gaining detailed information about the civilian populace and infrastructure in a particular zone. Therefore, a CAB scout platoon is not capable of executing these specific types of missions, and as a result, this study will not evaluate the ability of a CAB scout platoon to conduct these types of missions.

The critical tasks identified in FM 3.20-98 are:

1. Reconnoiter all terrain within the zone.

2. Inspect and classify all bridges within the zone.

3. Locate fords or crossing sites near all bridges in the zone.

4. Inspect and classify all overpasses, underpasses, and culverts in the zone.

5. Within capability, locate all minefields and other obstacles in the zone, reduce or breach them, and clear and mark lanes through the obstacles.

6. Locate bypasses around built-up areas, obstacles, and contaminated areas.

7. Find and report all threat forces within the zone.

8. Report reconnaissance information (2002, 63).

Area Reconnaissance

The purpose of an area reconnaissance is to gain information on objective areas as well as to confirm IPB templates and provide detailed information regarding threat dispositions. Area reconnaissance missions are conducted to focus the platoon on the specific area that is critical to the commander. The purpose of focusing the

reconnaissance is to permit the mission to be accomplished more quickly. “Area reconnaissance is the primary mission of the recce platoon, the BRT, the task force scouts, and scouts in light cavalry organizations” (FM 3.20-98 2002, 3-57). Based on this statement, all aspects of a CAB scout platoon, manning, equipment, and training, should be focused on the accomplishment of this mission.

There are four ways to focus an area reconnaissance, terrain-oriented, force-oriented (threat), society-oriented, or infrastructure-oriented.

FM 3.20-98 states that a scout platoon must be augmented with the appropriate assets to conduct a zone reconnaissance oriented on gaining detailed information about the civilian populace and infrastructure in a particular zone. Therefore, a CAB scout platoon is not capable of executing these specific types of missions, and as a result, this study will not evaluate the ability of a CAB scout platoon to conduct these types of missions.

The reconnaissance platoon must accomplish numerous critical tasks during the area reconnaissance. FM 3.20-98 defines the critical tasks for a area reconnaissance as:

1. Reconnoiter all terrain within the area.

2. Inspect and classify all bridges within the area.

3. Locate fords or crossing sites near all bridges in the area.

4. Inspect and classify all overpasses, underpasses, and culverts in the area.

5. Within capability, locate all minefields and other obstacles in the area, reduce or breach them, and clear and mark lanes.

6. Locate bypasses around built-up areas, obstacles, and contaminated areas.

7. Find and report all threat forces within the area.

8. Report reconnaissance information (2002, 49).

Based on information presented in the above paragraphs, the exact role of a CAB scout platoon, when conducting reconnaissance operations, can be defined. The CAB scout platoon is expected to execute a route and area reconnaissance with its organic assets. Commanders will expect that the CAB scout platoon will successfully accomplish all critical tasks associated with those missions. The execution of a zone reconnaissance mission is only attempted when the threat capabilities are within the CAB scout platoon to deal with. When enemy contact is expected that is outside the capabilities of the CAB scout platoon, it must be augmented with additionally forces to successfully accomplish this mission. Next, security missions will be examined.

Security

The aim of security operations is to protect the main body from threat observation and surprise attack. These operations provide the main body commander with early warning, allowing him to concentrate his combat power at the right place and time to defeat the threat. There are four types of security missions, area security, screen, guard, and cover. These four missions can be considered in terms of degree of security provided and the amount of combat power required.

The area security and screen missions are normally intended to provide only early warning and therefore, require the least amount of combat power. All echelons of reconnaissance units, from platoon to regiment, can perform area security or a screen.

A guard force accomplishes all the tasks of a screening force. Additionally, a guard force prevents enemy ground observation of and direct fire against the main body. A guard force reconnoiters, attacks, defends, and delays as necessary to accomplish its

mission. A guard force normally operates within the range of main body indirect-fire weapons. Guard missions require at least a squadron sized organization to be successfully accomplished.

A covering force accomplishes all the tasks of screening and guard forces. Additionally, a covering force operates apart from the main body to develop the situation early and deceives, disorganizes, and destroys enemy forces. Unlike screening or guard forces, a covering force is tactically self-contained and capable of operating independently of the main body. Cover may be performed as an offensive or defensive mission. A covering force, or portions of it, will often become decisively engaged with enemy forces; therefore, the covering force must have substantial combat power to engage the enemy and still accomplish its mission. A covering force normally is a brigade-sized organization or larger.

Based on the descriptions of the four types of security missions, a CAB scout platoon can only accomplish two, the screen and area security missions.

Screen

A screening force provides early warning to the main body and impedes and harasses the threat with direct and indirect fires. Within its capabilities and based on the higher commander's guidance, it destroys or repels threat reconnaissance units in coordination with other combat elements. Operating over an extended area, the platoon fights only for self-protection within its capabilities and to deny threat elements close-in observation of the main body. Screen missions are defensive in nature and largely accomplished by establishing a series of observation posts and conducting patrols to

ensure adequate surveillance of the assigned sector. The screen provides the protected force with the least protection of any security mission.

FM 3.20-98 states that a scout platoon must be able to accomplish the following critical tasks, during the execution of a screen mission:

1. Maintain continuous surveillance of the area of operations, including all assigned NAIs or avenues of approach into the sector.

2. Provide early warning of any threat approach.

3. Within capability and based on the commander's guidance, identify threat reconnaissance units and, in coordination with other combat elements, destroy them.

4. Gain and maintain contact with the threat main body, report the threat activity, and conduct proper handover with other elements.

5. Impede and harass the threat main body by controlled use of indirect fires (2002, 4-4).

Area Security

Area security missions are conducted to deny the enemy the ability to influence friendly actions in a specific area or to deny them the use of an area for its own purposes. This may entail occupying and securing an area without the presence of the threat or taking actions to destroy threat forces already present in the area. The area security mission may provide protection of designated personnel, airfields, unit convoys, facilities, main supply routes, lines of communications, equipment, and critical points (FM 3.20-98 2002, 4-33).

FM 3.20-98 does not define specific critical tasks for the execution of an area security mission. It explains the tasks of an area reconnaissance in terms of a variety of techniques used to execute it. These include:

1. Area, route, and/or zone reconnaissance.

2. Screening operations.

3. Offensive and defensive tasks (within the platoon's capability based on METT-TC).

4. Convoy security.

5. High-value asset security (2002, 4-34).

Now that the capabilities and doctrinal missions of the CAB scout platoon have been identified, the next step is the functional needs analysis phase of the methodology.

Functional Needs Analysis

The functional needs analysis uses the FAA phase results to assess the ability of the scout platoon to perform each of the critical tasks of its two primary missions. The analysis takes the identified critical tasks for each platoon mission and analyzes them against the success criteria (see Chapter 3 for definitions) based on the capabilities identified in the FAA phase. The analysis will be recorded on a results matrix by assigning a C, P, or N for each critical task. A capable (C) rating represents a mission that a CAB scout platoon is capable of effectively accomplishing without any additional attachments. Partially (P) capable will be used for a mission that requires the augmentation of normal attachments, as described in the FAA of chapter 4. Not (N) capable will be used to represent missions that, even with normal augmentations, it is not capable of successfully accomplishing.

The critical tasks that receive an N for a rating will be used to form limitations for the CAB scout platoon. These limitations will be used as the basis for recommendations to improve the combat effectiveness of the CAB scout platoon. This analysis will be conducted for all five missions of the CAB scout platoon, route reconnaissance, area reconnaissance, zone reconnaissance, screen, and area security. The first mission to be analyzed is the route reconnaissance.

Route Reconnaissance

The CAB scout platoon is fully capable of accomplishing the route reconnaissance mission (see table 3).

Table 3. Result Matrix (Route Reconnaissance)

CRITICAL TASKS	T	A	SUS	SUV	Overall
Determine the trafficability of the route	C	C	C	C	C
Reconnoiter all built-up areas along the route	C	C	C	C	C
Reconnoiter, to the limit of direct fire range, terrain that dominates the route.	C	C	C	C	C
Reconnoiter, to the limit of direct fire range, all lateral routes	C	C	C	C	C
Inspect and classify all bridges on the route	C	C	C	C	C
Locate fords or crossing sites near all bridges on the route	C	C	C	C	C
Inspect and classify all overpasses, underpasses, and culverts	C	C	C	C	C
Reconnoiter all defiles along the route	C	C	C	C	C
Locate minefields, and other obstacles, along the route	C	C	C	C	C
Locate a bypass around built-up areas, obstacles, restrictions and contaminated areas	C	C	C	C	C
Report route information	C	C	C	C	C
Find and report all threat forces that can influence movement along the route	C	C	C	C	C

Timeliness

Time is the most critical aspect of all scout missions. The amount of time allocated to the accomplishment of a scout mission directly relates to the level of success. Based on the critical tasks associated with a route reconnaissance and the capabilities of the CAB scout platoon there are no tasks that it cannot effectively accomplish with adequate time.

However, there are tasks that demand further discussion. The task to reconnoiter all built-up areas along a route is not impossible for the platoon to accomplish however, the limited dismount capabilities of the platoon makes this extremely time consuming and dangerous. This is a mission that requires extensive planning and deliberate executions to accomplish successfully.

Accuracy

Based on capabilities the scout platoon can fully accomplish all tasks associated with a route reconnaissance successfully.

Accuracy during the execution of a route reconnaissance is directly related to training, sensing systems, and reporting capabilities. Training is the leading cause of errors in accuracy during route reconnaissance. The ability to execute this mission is a manner of adequate training of scouts. All scout are trained at basic training schools in the tasks associated with this mission. These skills are fleeting and must be trained to ensure continued competence within the scout platoon.

The improved ability to identify objects, vehicles, and personnel with optics will have a profound impact on all scout operations by the CAB scout platoon. The LRAS3, and the LLDR represent a significantly improved capability to accurately identify precise

grid locations. This ability combined with battlefield systems such as FBCB2, will significantly reduce the level of error in scouting operations.

Sustainment

Route reconnaissance missions are generally short in duration. This is not a mission that has the potential to last over twenty-four to forty-eight hours. The route reconnaissance mission is normally conducted by utilizing the platoon vehicles. This means that the scout will be operating with all critical classes of supply, class III and V, readily available. This significantly reduces the sustainment requirement for the platoon. Additionally, execution is conducted along a route that has improved traffic ability over missions that require cross-country movement. This reduces maintenance requirements, as well as ware and tear on equipment.

Survivability

The CAB scout platoon has improved survivability on the battlefield. The addition of M3s to the scout platoon increased the likelihood of a scout section surviving a chance contact. The CAB scout platoon is suited very well to survive during the execution of a route reconnaissance, in any type of terrain. The M1114 provides the appropriate level of stealth and optic capability to execute route reconnaissance successfully. When enemy contact is highly probable, the CAB scout platoon can lead a route reconnaissance with a M3, to provide the armored protection needed to survive chance contact.

This all must be tempered with the understanding that the M1114 with LRAS3 mounted does not have any crew served weapons for protection. This affects the ability of a scout section to utilize a wingman concept during the execution of a react to contact

drill or a break contact drill and could be considered a limitation. However, the limited distance that scout sections operate between one another during a route reconnaissance mitigates this risk. Scout sections are generally in positions of mutual support during the execution, which provides significant security and survivability for the entire platoon.

The analysis reveals a platoon that does not need additional assets to accomplish this mission. The next mission analyzed is the area reconnaissance mission.

Area Reconnaissance

The CAB scout platoon is fully capable of accomplishing all put one of the critical tasks associated with the area reconnaissance mission (see table 4). The critical task requiring a scout platoon to reduce or breach, and clear and mark lanes of an enemy minefield presents challenges to the CAB scout platoon. These challenges will be discussed in the analysis of timeliness and survivability.

Table 4. Result Matrix (Area Reconnaissance)

CRITICAL TASKS	T	A	SUS	SUV	Overall
Reconnoiter all terrain within the area	C	C	C	C	C
Inspect and classify all bridges within the area	C	C	C	C	C
Locate fords or crossing sites near all bridges in the area	C	C	C	C	C
Inspect and classify all overpasses, underpasses, and culverts in the area	C	C	C	C	C
Within capability, locate all minefields and other obstacles in the area, reduce or breach them, and clear and mark lanes	P	C	P	P	P
Locate bypasses around built-up areas, obstacles, and contaminated areas	C	C	C	C	C
Find and report all threat forces within the area	C	C	C	C	C
Report reconnaissance information	C	C	C	C	C

Timeliness

During the execution of an area reconnaissance a CAB scout platoon is limited in its ability to reduce, breach, clear and mark enemy obstacles. This limitation is based on a CAB scout platoon being required to breach or reduce any unforeseen enemy obstacles in a designated area. If time to breach or reduce obstacles is built into a plan, this may not be considered a limitation. However, any unforeseen obstacles will result in a significant reduction of the CAB scout platoon's ability to successfully accomplishing its mission. A CAB scout platoon is fully capable of accomplishing this task, given the appropriate time. Due to the high likelihood of encountering an unforeseen enemy obstacle, the CAB scout platoon would require additional engineer augmentation to accomplish this task.

Accuracy

Based on the capabilities of the scout platoon there are no tasks that a scout platoon could not accomplish fully and accurately. Accuracy during the execution of an area reconnaissance is improved in a CAB scout platoon by the number of maneuver elements within the platoon. A Force XXI scout platoon had six HMMWVs broken down into three sections. This required the scout platoon leader to become actively involved in the execution of any mission as one of the three section leaders. In a CAB scout platoon the eight vehicles in the platoon are divided into four sections. This allows the platoon leader to remain removed from executing any scouting tasks and concentrate on analysis of reports and information quality control. The four-section configuration will improve the accuracy of all information being reported by the scout platoon for any mission.

Sustainment

CAB scout platoons are partially capable of sustaining operations during the execution of an area reconnaissance. This is due to the demands of conducting extended dismounted operations. The CAB scout platoon is manned with only three dismounted scouts. This is due to an increase in the number of vehicles that require manning. The lack of sufficient dismountable scouts produces a limited ability to conduct dismounted operations. During offensive operations these dismountable scouts would become fatigued very rapidly and require significant shuffling of platoon personnel to maintain an expectable tempo of operations. A CAB scout platoon could generate a maximum of twelve dismounted scouts and still protect and move its organic vehicle. While twelve dismounted scouts represent a significant number of scouts, it would reduce the tempo of reconnaissance operation to a level that would not permit a CAB to conduct any significant offensive operations. Therefore, the CAB scout platoon is limited in its ability to sustain dismounted operations during the execution of an area reconnaissance.

Survivability

The CAB scout platoon is fully capable of surviving on the battlefield while conducting an area reconnaissance. As mentioned previously, the CAB scout platoon is limited in its ability to operate in effective wingman configurations due to the lack of a crew served weapon on the M1114. In a route reconnaissance this is mitigated by the close proximity that the scout sections operate in; this holds true for the execution of an area reconnaissance. The platoon is capable of operating in a manner that allows scout sections to cover each other and provide mutual support. The only shortcoming in survivability is related to the issue of timeliness. As a scout platoon encounters an

unexpected obstacle and consumes valuable time reducing it, it becomes vulnerable to enemy direct fire. This type of chance enemy contact could result in significant casualties and loss of equipment. It is for this reason that the CAB scout platoon is rated as partially capable in regard to survivability during an area reconnaissance.

The CAB scout platoon is an excellent organization to conduct an area reconnaissance, and is regarded as being fully capable of accomplishing this mission. The level of success will be determined by the ability of the unit to anticipate enemy locations and plan accordingly. Once the platoon encounters a chance contact or unanticipated obstacle, it becomes bogged down and will fail to achieve all the tasks expected of it. All of this may be overcome with proper planning and sufficient time to execute. The only limitation that cannot be overcome is the ability to sustain dismounted operations. This limitation may be insignificant during the execution of high tempo reconnaissance; however, it will have a negative effect on operations during low tempo or urban operations. The next mission analyzed is the zone reconnaissance mission.

Zone Reconnaissance

The CAB scout platoon is not capable of accomplishing all of the critical tasks associated with the zone reconnaissance mission and therefore is considered not capable of accomplishing this mission without additional combat power (see table 5). The zone reconnaissance mission is characterized by dispersed execution of scout sections and a reduced tempo of operation. These characteristics reduce the effectiveness of the CAB scout platoon to survive on the battlefield by preventing it from executing mutually supporting maneuvers. Additionally, the extended distances emphasize the limited

dismounted capability within a single scout section. These limitations manifest themselves in the analysis of the critical tasks centered on obstacles and enemy threats

Table 5. Result Matrix (Zone Reconnaissance)

CRITICAL TASKS	T	A	SUS	SUV	Overall
Reconnoiter all terrain within the zone	C	C	C	C	C
Inspect and classify all bridges within the zone	C	C	C	C	C
Locate fords or crossing sites near all bridges in the zone	C	C	C	C	C
Inspect and classify all overpasses, underpasses, and culverts in the zone	C	C	C	C	C
Within capability, locate all minefields and other obstacles in the zone, reduce or breach them, and clear and mark lanes through the obstacles	P	C	P	N	N
Locate bypasses around built-up areas, obstacles, and contaminated areas	C	C	C	C	C
Find and report all threat forces within the zone	P	C	C	N	N
Report reconnaissance information	C	C	C	C	C

Timeliness

As discussed in previous analysis the CAB scout platoon is limited in its ability to reduce, breach, clear and mark enemy obstacles. This limitation is increased in a zone reconnaissance by the inability of scout sections to mutually support each other with fire or personnel. These limitations are the justification for a partially capable rating in the results matrix.

Accuracy

Based on the capabilities of the scout platoon there are no tasks that a scout platoon could not accomplish accurately during the execution of a zone reconnaissance. Therefore there are no ratings below fully capable.

Sustainment

CAB scout platoons are partially capable of sustaining operations during the execution of a zone reconnaissance. This is due to the demands of conducting extended dismounted operations throughout a zone reconnaissance. The dispersed nature of a zone reconnaissance creates a great deal of strain and stress on the single dismount within a scout section. The lack of sufficient dismountable scouts produces a limited ability continually clear intervisibility lines and dead space during execution. Therefore, the CAB scout platoon is limited in its ability to sustain dismounted operations during the execution of a zone reconnaissance.

Survivability

The CAB scout platoon is not capable of surviving on the battlefield while conducting a zone reconnaissance. As discussed above, the dispersed nature of a zone reconnaissance presents significant security issues for the CAB scout platoon. The inability to mutually support sections with maneuver leaves the platoon extremely vulnerable to chance contact. In any type of terrain a section caught by surprise, be it by a mounted or dismounted threat, will not be able to adequately execute a break contact drill to evade the enemy. This places the scouts in a position that they are least suited to deal with, a direct fire fight of any type. For this reason the CAB scout platoon is limited in its ability to survive during a zone reconnaissance. It therefore must be augmented with combat power from another unit within the CAB to be effective.

The CAB scout platoon is often given the mission of zone reconnaissance. While the CAB scout platoon is trained to conduct this mission it is not manned or equipped to successfully execute this mission. A commander must augment the platoon with

additional forces to be successful under normal conditions. The organization of a scout section with an M3 and a M1114 is not sufficient to successfully accomplish this mission. Additionally, the number of dismounted scouts limits the sections ability to clear intervisibility lines and dead space. Next an analysis of the security missions of screen and area security will be analyzed.

Screen

The CAB scout platoon is capable of successfully executing the screen mission; however, it suffers from a lack of dismounted scouts (see table 6). The limitation of dismounted scouts hinders the platoon's inability to create depth in its screen line and to produce dismounted patrols between observation posts to cover dismounted avenues of approach. The lack of depth has a negative effect on the platoon's ability to ensure accuracy and effectiveness of artillery to impede and harass the enemy. Additionally, the small number of dismounts limited the platoons ability to conduct effective sustained operations.

Table 6. Result Matrix (Screen)

CRITICAL TASKS	T	A	SUS	SUV	Overall
Maintain continuous surveillance of the area of operations, including all assigned NAIs or avenues of approach into the sector.	C	P	P	C	P
Provide early warning of any threat approach	C	C	C	C	C
Within capability and based on the commander's guidance, identify threat reconnaissance units and, in coordination with other combat elements, destroy them	C	C	C	C	C
Gain and maintain contact with the threat main body, report the threat activity, and conduct proper handover with other elements	C	P	C	C	C
Impede and harass the threat main body by controlled use of indirect fire	C	P	C	C	C

Timeliness

Based on the static nature of screening operations, the CAB scout platoon is fully capable of executing this mission with regard to timeliness. There are no negative effects based on timeliness for the screening mission.

Accuracy

The CAB scout platoon is partially capable to accurately and effective integrate indirect fires into a screen line. The scout platoon must deploy on a screen line with sufficient depth in order to accurately employ artillery. The CAB scout platoon is capable of operating three observation posts simultaneously. This does not provide a sufficient number of observation posts to trigger artillery and observer the effects in restricted terrain. Large fields of observation afforded in desert or unrestricted terrain mitigates this problem. However, based on restricted terrain the CAB scout platoon must be augmented by COLTs or other assets to ensure sufficient depth is achieved to effective employ artillery.

Dismounted avenues of approaches are problematic for the CAB scout platoon. To ensure continues coverage of long duration observation post, the CAB scout platoon must employ 90 percent of its personnel strength. This prevents the platoon from producing dismounted patrols to cover dismounted avenues of approach. As a result, enemy attempts to infiltrate infantry or reconnaissance assets into a zone have a high likelihood of succeeding. This limitation further justifies the rating of partially capable.

Sustainment

The partially capable rating for sustainment is based on the above discussion of limited dismounted scout capabilities. This limitation affects the CAB scout platoon, in

sustainment, based on the platoon's attempts to cover dismounted avenues of approach. As the platoon generates the dismounted patrols to cover dismounted avenues of approach, they will have to pull from personnel manning observation posts. This will reduce the amount of rest periods that a scout will receive and negatively affect the platoon's ability to maintain continuous observation.

Survivability

The CAB scout platoon benefits, in survivability, due to the static nature of a screen line. A scout platoon is expected to prevent enemy contact by remaining hidden and using stealth during the execution of this mission. However, the optic capacities integrated with the M3 produces a platoon that is extremely well suited to execute and survive on the screen line. The CAB scout platoon is fully capable of surviving during the execution of a screen line.

Area Security

The area security mission is a merging of all the previously discussed missions with several other critical tasks and missions integrated. Therefore, the analysis for this mission will not rehash the issues raised in previous missions analyzed. The only significant issue involving the area security critical task revolves around the convoy security task (see Table 7).

According to FM 3.20-98, the convoy security mission is a reconnaissance troop level mission. It defines the convoy escort mission as a platoon mission. This inconsistency, within FM 3.20-98, accounts for the not capable rating for the convoy security critical task.

Table 7. Results Matrix (Area Security)					
CRITICAL TASKS	T	A	SUS	SUV	Overall
Area, route, and/or zone reconnaissance	C	C	C	P	C
Screening operations	C	C	C	C	C
Offensive and defensive tasks (within the platoon's capability based on METT-TC).	C	C	C	C	C
Convoy security	N	N	N	N	N
High-value asset security	C	C	C	C	C

Summary

The analysis of the CAB scout platoon's ability to effectively execute the critical tasks associated with its primary missions has identified several limitations. These limitations can be condensed into two primary problem areas, dismounted operations and mutual support within a scout section.

The CAB scout platoon can generate limited dismounted scouts due to the increased number and type of vehicles that must be manned, with no increase in authorized personnel. During the execution of reconnaissance missions this means that the platoon is limited in its ability to conduct reconnaissance of built up areas, to clear intervisibility lines, and reduce or breach obstacles. The limitation of dismounted operations also affects the platoon's ability to execute security missions.

Security operations are affected in two areas, dismounted avenues of approach and screen depth. The lack of dismounts prevents the platoon from conducting patrolling in dead space or between observation posts. Thus, the screen line remains vulnerable to attack and penetration by enemy dismounted forces. Additionally, the effectiveness of the screen line is reduced by a lack of depth, based on only being able to operate three observation posts. With only the capability to man three long duration observation posts,

the platoon is limited in its ability to accurately incorporate indirect fires in restricted terrain. The second area of difficulty for the CAB scout platoon is with section-mounted operations.

The CAB scout platoon is task organized into three two-vehicle reconnaissance sections. These three sections each have a M3 and a M1114 with a LRAS3. The LRAS3 prevent the M1114 from mounting any kind of crew served weapon. This not only leaves the M1114 vulnerable to enemy contact, but prevents it from mutually supporting the M3 with direct fire. This significantly affects the survivability of the scout section on the battlefield.

In the final chapter, the conclusion will cover the final answer to the research question and offer recommendations to resolve the limitations inherent to the CAB scout platoon. Additionally, this chapter will recommend areas for further research in order to expand the analysis of the affects of modularity on the reconnaissance community.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

Chapter 5 is divided into two sections, the Functional Solutions Analysis and the areas for future studies. The FSA is the final phase of the methodology. This phase uses identified limitations, from chapter 4, to recommend changes to the scout platoon in terms of doctrine, organization, training, material, leadership, personnel, and facilities (DOTMLPF). Additionally, Sections II, chapter 5 will address recommendations for future study, to address issues that merit further study of the effect of modularity on reconnaissance operations.

Functional Solutions Analysis

The FSA phase will begin by answering the research question. Is the combined arms battalion scout platoon effective at accomplishing its doctrinal missions? Yes. Based on the analysis of what doctrine expects the CAB scout platoon to accomplish and what its capabilities are, it is fully capable of executing its mission. However, there are limitations to capabilities. These limitations will be discussed in terms of DOTMLPF. Based on the focus of this study the FSA phase will not address issue concerning training, leadership, or facilities.

Doctrine

The analysis of doctrine involves the application of FMs; tactics, techniques and procedures (TTPs); or regulations that govern or guide the way reconnaissance units conduct operations. This study did not intend to analysis or validate the effectiveness of reconnaissance doctrine. However, there seems to be a need to separate the doctrine associated with cavalry units and scouting units. While studying the supporting doctrine

and the desired employment of reconnaissance units during desert storm and operations Iraqi freedom (OIF), it has become apparent that commanders desire to use all reconnaissance units as cavalry. Facilitating maneuver, by commanders, is bases for find the enemy and engage them with the small force necessary. Within modularity doctrine the reconnaissance units are to identify the enemy out of contact, using sensors, and maintain concealed positions to continually observe the enemy. In severely restricted terrain this type of employment is not realistic. Reconnaissance units will become engaged at close range with little warning of an attack. For even if you know were the enemy is, once you physically see them, they can see you. This means you are vulnerable to attack and must be willing to engage the enemy to fight for the reconnaissance information needed. The CAB scout platoon is not designed to fight for information. Its mission accomplishment revolves around its ability to stealthily identify the enemy and report reconnaissance information. To ensure leaders and units understand the limitation and capacities of the two different types of reconnaissance units, separate doctrinal manual series should be developed. If commanders desire an organization that is capable of fighting for information, rather then gather information, they need to press to reorganize the CAB scout platoon to be capable of performing that type of mission. The next aspect of DOTMLPF to be analyzed is organization.

Organization and Personnel

Organization refers to the parts that make up a unit. Those parts represent the functions, characteristics, and capacities needed to conduct operations. The CAB scout platoon organization has improved on the previous scouting organization. The addition of a separate command and control section greatly enhances the capabilities of the platoon

to process reconnaissance information. However, the analysis in chapter 4 identified a major limitation in the organization of the of the CAB scout platoon, its ability to operate effectively in a wingman configuration. The CAB scout platoon section consists of one M3 and one M1114 with an LRAS3. The M1114 is not capable of supporting the M3 with direct fire due to the mounting of the LRAS3. The lack of a crew served weapon prevents the section from effectively executing critical battle drills, such as breaking and reacting to contact drills. There are several different recommendations that could be made to resolve this limitation. The two courses of action that represent a viable increase in combat capability are, and increase in the number of M1114s or an increase in the number of M3A3s. Each of these recommendations has benefits to each that are unique, and create a platoon with a different level of capability.

The first course of action resolves the limitation of mutual support within the scout section by increasing the number of M1114s per section by one (see appendix C). An additional M1114 per section would enable the platoon to mount a M2 50 caliber machine gun on one of the M1114s and retain the LRAS3 on the other. By increasing the number of M1114s the platoon would be able to effectively execute the critical battle drills necessary to survive on the battlefield. Additionally, each scout section would retain the ability to employ stealth using the M1114s and utilize effected over watch with the M3 or the M1114 with an LRAS3. This recommended change not only assists the platoon during reconnaissance operations, it also increased the platoon's capabilities during security operations.

Increasing the platoon by three vehicles allows the platoon to generate up to three long duration or five short duration observations post. The increase in observation posts

is due to the increase number of scouts per section by adding the new vehicles with a four-man crew each. An increase in the number of observation post will have a positive effect on the amount of depth the platoon can create in a screen line. The increase in the number of observation posts also enables the scout section to observe a technical area of interest (TAI) and a known area of interest (NAI) using internal assets. This provides the critical trigger to observer link, when employing artillery, which is missing in the current CAB scout platoon. When patrolling the platoon would be able to dismount a maximum of twenty scouts, rather then the twelve in the current CAB scout platoon. Twenty dismounts could be organized into two full squads, allowing a scout platoon to effectively fire and maneuver dismounted. The second course of action calls for the replacement of all but two of the M1114s with M3A3s.

The addition of three more M3A3s would create an organization that has three heavy scout sections and one light scout section (see appendix D). The platoon leader and platoon sergeant would make up one of the heavy sections to allow the platoon leadership to move freely around the battlefield in an armor vehicle. The other scout sections could be task organized into two heavy scout sections and one light scout section, with LRAS3 or into two heavy light combination sections and one heavy pure section. The flexibility to match platoon task organize to potential threats will allow the platoon to maximize its capabilities. A scout platoon would be able to conduct stealthy mounted reconnaissance when needed and have the firepower to mutually support the light scout section. If enemy contact is likely, the platoon can transition to a more heavily armored profile to protect scout from chance contacts. When the integration of light and heavy scout is essential to produce the stealth and armored protect required to collect

intelligence, the platoon can task organize appropriately. This course of action also assists the platoon during security operations.

The increase in vehicles and personnel within the platoon would create the capability to man more observation posts and dismount more soldiers for patrolling. Ten scouts would man each scout section, except for the command section; it would have seven scouts and one officer. The total number of soldiers per platoon would be thirty-nine soldiers and one officer. Based on having six M3A3s and two M1114s the platoon would be capable of generating up to three long duration or 6 short duration observations post. Just as with the first course of action, the total number of soldiers available to dismount is eighteen, an increase of six from the current CAB scout platoon. Eighteen dismounts could be organized into two full squads, allowing a scout platoon to effectively fire and maneuver dismounted.

Course of action creates a platoon that is more oriented on stealthy reconnaissance, while the second course of action can be more aggressive. Next the facet of DOTMLPF to be analyzed is material.

Material

Material products are traditionally what have been associated with the defense acquisition process. For this study it refers to weapons, platforms, communication equipment, and ancillary equipment of the CAB scout platoon. The CAB scout platoon possesses improved optics, communications, and weapons over the LCD configured scout platoons. These improved systems enable the CAB scout platoon to perform required missions more effectively. However, the limitation of the M1114 with LRAS to engage threats with direct fire severely hinders scout operations. The LRAS3 system

must be reconfigured to slave a crew served weapon to the sight. The M240 machine gun is a perfect candidate. The M240 machine gun would enable the operator of the LRAS to effectively return fire at a threat element while maintaining the easy manipulation of the LRAS3 sight. Adding a small crew served weapon to the LRAS3 vehicle is in no way a replacement for the recommendation of adding a M1114 with a 50-caliber machine gun. The M240 recommendation is to provide a viable self-protection mechanism for all vehicles within the CAB scout platoon. Implementing all the recommendations contain within this study will not solve all the problems associated with the reconnaissance community. The next section will address areas that require additional research and study within the reconnaissance community.

Recommendations for Future Study

This study analyzed the changes of modularity on the basic building block of reconnaissance operations, the CAB scout platoon. The capabilities inherent to this organization may not be consistent with the requirement of a reconnaissance troop within an ARS. Will an ARS have the capability to fight for the intelligence need when sensors and stealth does not work? Is the Army moving away from units that are capable of fighting for information and relying on sensors to ensure enemy forces are identified prior to contact? Where is the capabilities represented by the AOE cavalry organization? Does the Army intend to replace the ability to fight for information with a sensor centric reconnaissance capability? Will a sensor centric reconnaissance capability meet the expectations of ground commanders on the battlefield of the future? As the Army evaluates the effectiveness of modular units on the battlefield, it must consider whether or not there is a need for ground reconnaissance formations above the BCT?

The Army is struggling to define the appropriate changes that need to occur above the BCT level to support modularity. Will there be or is there currently a need to create a ground reconnaissance organization to support the UEx or UEy intelligence gathering requirements? If this level of ground reconnaissance is required what capabilities does it need to encompass to be successful?

Once the Army has settled on the organization of reconnaissance units at the battalion, brigade, and possibly the UEx, it must understand and define the manner in which these units will interact on the battlefield. How will the reconnaissance units exchange information? What is the reconnaissance handover line between the CAB, HBCT, and the UEx? The roles, responsibilities, and capabilities of every level of reconnaissance must be studied to ensure there are no gaps in the ability to gather intelligence between the tactical, operational, and strategic levels of war.

These issues only represent a small number of the areas that must be analyzed to understand the effects of modularity on the reconnaissance community. Further research is required and must be demanded to ensure the expectations of commanders are in line with the capacities of reconnaissance units and organizations.

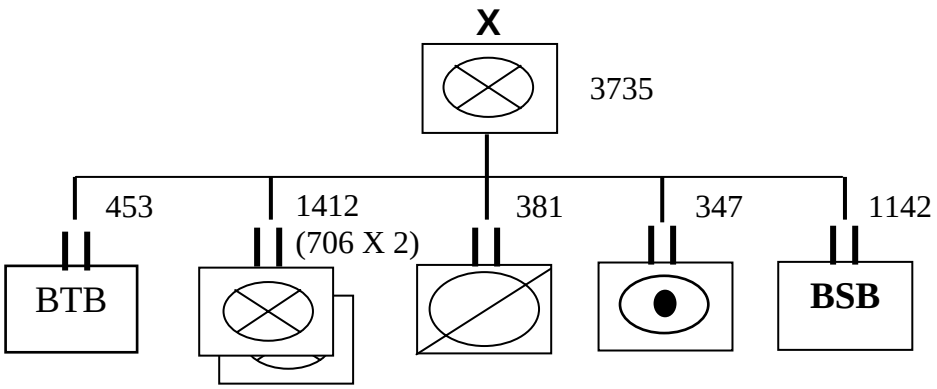
Summary

The research did, in fact, show that the CAB scout platoon is effective at accomplishing its doctrinal mission. The recommended changes represent areas of improvement to make the organization more effective on the battlefield. Even if the changes are not resourced the CAB scout platoon will still be effective on the battlefield. The changes will ensure that the unit is fully capable of executing all the required missions. Until improvements are codified, commanders must understand the capabilities

and limitations of the reconnaissance organizations at each level of command. With greater understanding reconnaissance requirements and expectations will align and mission accomplishment will not suffer. To ensure understanding is achieved, the continued study and analysis of the effects of modularity is essential

APPENDIX A

ORGANIZATIONAL CHART FOR A HBCT



HHC (167)
- C2 Enhancements
  Increased staff
  Deputy Cdr
  2 x M2 / BCV
  JFIRES (ECOORD, NLEC, JTACP)
  ADA/AVN STAFF
  SOF LNO

BTB HHC (100)
- MP Plt
- Security Element (2 M2)
-SUAV

Signal Co (68)
-BSB TACSAT Plt (2)

MI Co (118)
- ISR Analysis Plt
- ISR Integration Plt
- HUMINT Sec
- 1 Common Ground Station

HHC (197)
- JTAC/FSE/ w/ 3x BFIST
- Sct Plt w/ 3 M2 and 5 LRAS3
- Mortars (4)
- Sniper Sec

2 x Mech IN Co (292)
- 6 x INF Plts (36 squads)
- Co SUAV

2 x Tank Co (134)
- Co SUAV

Eng Co (76)

HHT (114)

3 Recce Troops (267)
- 2 x Plts w/ 3 sections w/1 x M3/LRAS3
- Mortars (2)
- SUAV

HHB (87)

2 x Batteries (230)
- Paladin 2 x 8

Target Acq Plt (30)
-1 x Q36
-1 x Q37
- 4 x LCMR

HHC (91)
- Enhanced Staff
- SUAV
- Additional drivers

Maint Co (80)

Distro Co (163)

Med Co (76)

ARS Forward Support Co (142)

MVR Forward Support Co (231 x 2 462)

FIRES Forward Support Co (128)

APPENDIX B

RECONNAISSANCE AND SCOUT PLATOON HISTORICAL SUMMARY

Type	Period	TOE	#Pers/Veh	Organ.	Manual
Light Recon Platoon	WWII 1943	17-24	1+20 / 6	1-halftrack	FM17-33 FM17-42
Heavy Recon Platoon	Post WWII	17-25H	1+38 / 10	5-Jeeps 2-Tanks 1 APC (Inf.) 2 Jeeps MTR	FM17-33 FM17-22
Light Scout Platoon	Mid-1950s	17-25T	1+39 / 14	14-Jeeps	FM17-33
Heavy Scout platoon	ROAD 1963	17-35E	1+32 / 8	5-M114s 2-M41 Tanks 1-M113 (Inf.)	FM17-35
	Vietnam 1966	17-35G	1+49 / 10	10-M113 ACAVs	FM17-35
	1973 H-Series	17-35H	1+29 / 10	6-M113s 4-M113 TOW	FM17-2 FM17-95
	DIV 86 Transition		1+29 / 6	3-M113 3-M113 ITV	FM71-2J FM17-98
	DIV 86		1+29 / 6	6-M3 BFV	FM17-98
Light Scout Platoon	AOE AUG 90		1+29 / 10	10-HMMWV	FM17-98
	LCD		1+29 / 6	6-HMMWV	FM17-98 FM3-20.98

Source: CPT(P) Harju, *White Paper – A Study of the Maneuver Battalion Reconnaissance or Scout Platoon* (Fort Knox: US Army Armor School, 1989), p. 128-129.

APPENDIX C

REORGANIZED ORGANIZATIONAL CHART FOR

A CAB SCOUT PLATOON (COA 1)

Command Section

M1114 M2

LT (PLT LDR)
SGT (Gunner)
PFC (Driver)

M1114 M2

SFC (PSG)
SGT (Gunner)
PFC (Driver)

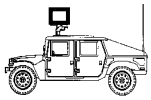
Personnel
LT = 1
SFC = 1
SSG = 6
SGT = 8
SPC = 9
PFC =17
Total= 42

Alpha Section

M1114 M2

SSG (TM LDR)
SPC (Gunner)
PFC (Driver)
PFC (Scout)

M1114 LBSA3



SGT(TM LDR)
SPC (Gunner)
PFC (Driver)
PFC (Scout)

M3A3

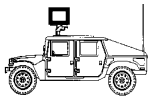
SSG (SEC SGT)
SGT (Gunner)
SPC (Driver)
PFC (Scout)

Bravo Section

M1114 M2

SSG (TM LDR)
SPC (Gunner)
PFC (Driver)
PFC (Scout)

M1114 LBSA3



SGT (TM LDR)
SPC (Gunner)
PFC (Driver)
PFC (Scout)

M2A2

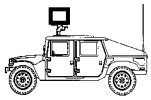
SSG (SEC SGT)
SGT (Gunner)
SPC (Driver)
PFC (Scout)

Charlie Section

M1114 M2

SSG (TM LDR)
SPC (Gunner)
PFC (Driver)
PFC (Scout)

M1114 LBSA3



SGT (TM LDR)
SPC (Gunner)
PFC (Driver)
PFC (Scout)

M3A3

SSG (SEC SGT)
SGT (Gunner)
SPC(Driver)
PFC (Scout)

APPENDIX D

REORGANIZED ORGANIZATIONAL CHART FOR

A CAB SCOUT PLATOON (COA 2)

Command Section

M3A3

LT (PLT LDR)
SGT (Gunner)
SPC (Driver)
PFC (Scout)
PFC (Scout)

M3A3

SGT (PSG)
SGT (Gunner)
SPC (Driver)
PFC (Scout)
PFC (Scout)

Personnel
LT = 1
SFC = 1
SSG = 6
SGT = 8
SPC = 8
PFC =16
Total= 40

Alpha Section

M3A3

SSG (SQD LDR)
SGT (Gunner)
SPC (Driver)
PFC (Scout)
PFC (Scout)

M3A3

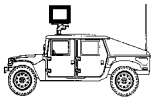
SSG (TM LDR)
SGT (Gunner)
SPC (Driver)
PFC (Scout)
PFC (Scout)

Bravo Section

M1114 – M2

SSG (SQD LDR)
SGT (Gunner)
SPC (Driver)
PFC (Scout)
PFC (Scout)

M1114 – LRSA3



SSG (TM LDR)
SGT (Gunner)
SPC (Driver)
PFC (Scout)
PFC (Scout)

Charlie Section

M3A3

SSG (SQD LDR)
SGT (Gunner)
SPC (Driver)
PFC (Scout)
PFC (Scout)

M3A3

SSG (TM LDR)
SGT (Gunner)
SPC (Driver)
PFC (Scout)
PFC (Scout)

REFERENCE LIST

Bellamy, Christopher. 1990. T*he Evolution of Modern Land Warfare: Theory and Practice*. London: Routledge.

Clausewitz, Carl von. 1989. *On War*. Edited and translated by Michael Howard and Peter Paret. Princeton, NJ: Princeton University Press.

Department of Defense. 2003. JP 3-09.3. *Joint Tactics, Techniques, and Procedures to Close Air Support (CAS)*. Washington DC: Department of Defense.

Department of the Army. 2003. *How the Army Runs*. Washington, DC: GPO

FM 3.20.96. 2002. *See* US Army. 2002.

FM 3-20.98. 2002. *See* US Army. 2002.

FM 3.20-971. 2002. *See* US Army. 2002.

FM 5-170. 1998. *See* US Army. 1998.

FM 6-20-40. 1990. *See* US Army. 1990.

FM 34-2-1. 1991. *See* US Army. 1991.

FM 101-5-1. 1997. *See* US Army. 1997.

Gillie, Mildred H. 1947. *Forging the Thunderbolt: A History of the Development of the Armored Force*. Harrisburg, PA: The Military Service Publishing Company.

Goldsmith, Martin. 1996. *Battalion Reconnaissance Operations at the National Training Center*. Santo Monica, CA: RAND.

Goldsmith, Martin, with James Hodges. 1987. *Applying the National Training Center Experience: Tactical Reconnaissance.* N-2628-A: RAND.

Handel, Michael I. 1996. *Masters of war: classical strategic thought.* Portland, OR: London publishers.

How the Army Runs. 2003. *See* Department of the Army. 2003.

JP 3-09.3. 2003. *See* Department of Defense. 2003.

Macgregor, Douglas A.1997. *Breaking the phalanx*. Westport, CT: Praeger Publishers.

Sun Tzu. 1994. *Art of War*. Translated by Ralph D. Swayer. Boulder, CO: Westview Press, Inc.

Rago, Louis B. MAJ. 2003. *Cavalry Transformation: Are we Shooting the Horse Too Soon?*. Monograph. School of Advanced Military Studies. For Leavenworth, KS: US Army Command and General Staff College.

Hargu, Craig MAJ. 1989. *A Study of the Maneuver Battalion Reconnaissance or Scout Platoon*. White Paper. Fort Knox, KY: U.S. Army Armor School.

US Army. n.d. *The Way Ahead*. website available from www.army.mil/thewayahead/relevant.html. Internet. Accessed date 23 March 2005.

US Army. 2002. FM 1. *The Army*. Washington DC: Department of the Army.

_____. 2004. FM 1-02. *Operational Terms and Graphics*. Washington DC: Department of the Army.

_____. 2002. FM 3.0. *Operations*. Washington DC: Department of the Army.

_____. 2002. FM 3-09.31. *Fire Support for Combined Arms Commanders*. Washington DC: Department of the Army.

_____. 2002. FM 3-20.96. *Cavalry Squadron (RSTA)*. Washington DC: Department of the Army.

_____. 2002. FM 3-20.98. *Reconnaissance Platoon*. Washington DC: Department of the Army.

_____. 2002. FM 3.20-971. *Reconnaissance Troop Recce Troop And Brigade Reconnaissance Troop*. Washington DC: Department of the Army.

_____. 1998. FM 5-170. *Engineer Reconnaissance*. Washington DC: Department of the Army.

_____. 1990. FM 6-20-40. *Fire support for Brigade Operations (Heavy)*. Washington DC: Department of the Army.

_____. 1996. FM 17-95. *Cavalry Operations*. Washington DC: Department of the Army.

_____. 1995. FM 17-97. *Cavalry Troop*. Washington DC: Department of the Army,.

_____. 1991. FM 34-2-1. *Reconnaissance and Surveillance and Intelligence Support to Counter-Reconnaissance*. Washington DC: Department of the Army.

_____. 1997. FM 101-5-1. *Operational Terms and Graphics*. Washington DC: Department of the Army.

_____. 2004. *Modular Brigade Combat Teams: Task Force Modularity White Paper Part III. Draft.* Washington DC: Department of the Army.

_____.1992. *Operation Desert Storm Lessons Learned (Tait Report).* Vol. 3, *Operational*. Fort Leavenworth, KS: Army Command and General Staff College.

Wolf, James F., MAJ. 1988. "Ground Reconnaissance in the Heavy Corps: Do Tactical Assets Match Mission Requirements?" Monograph, School of Advanced Military Studies, US Army Command and General Staff College. Fort Leavenworth, Kansas.

Wolff, Terry A. MAJ. 1991. "Tactical reconnaissance and Security for the Armor Battalion Commander: Is the Scout Platoon Combat Capable or Combat Ineffective?" Monograph, School of Advanced Military Studies. US Army Command and General Staff College. Fort Leavenworth, Kansas.

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